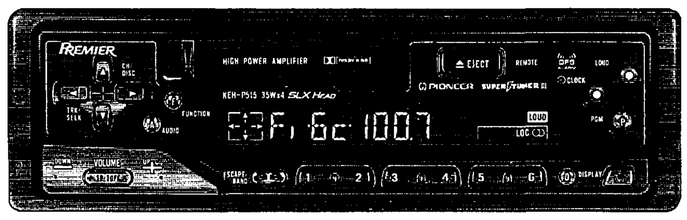
Service Manual

PIONEER®
The Art of Entertainment

KEH-P515/X1M/UC



ORDER NO.
CRT1996

MULTI-CD CONTROL HIGH POWER CASSETTE PLAYER WITH FM/AM TUNER

KEH-P515 X1M/UC
KEH-P5600 X1M/UC
KEH-P5650 X1M/ES

NOTE:

- **See the separate manual CX-631(CRT1640) for the cassette mechanism description.**
- **The cassette mechanism assy employed in this model is one of X-2L series**
- **Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.**
- **This service manual does not describe the CD test mode.**
  For the operations in the CD test mode, refer to the CD player's Service Manual.

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K-FFM. FEB. 1997 Printed in Belgium

1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.
If you are not qualified to perform the repair of this product properly and safely, you should mot risk trying to do so and refer the repair to a qualified service technician.

UC model

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING

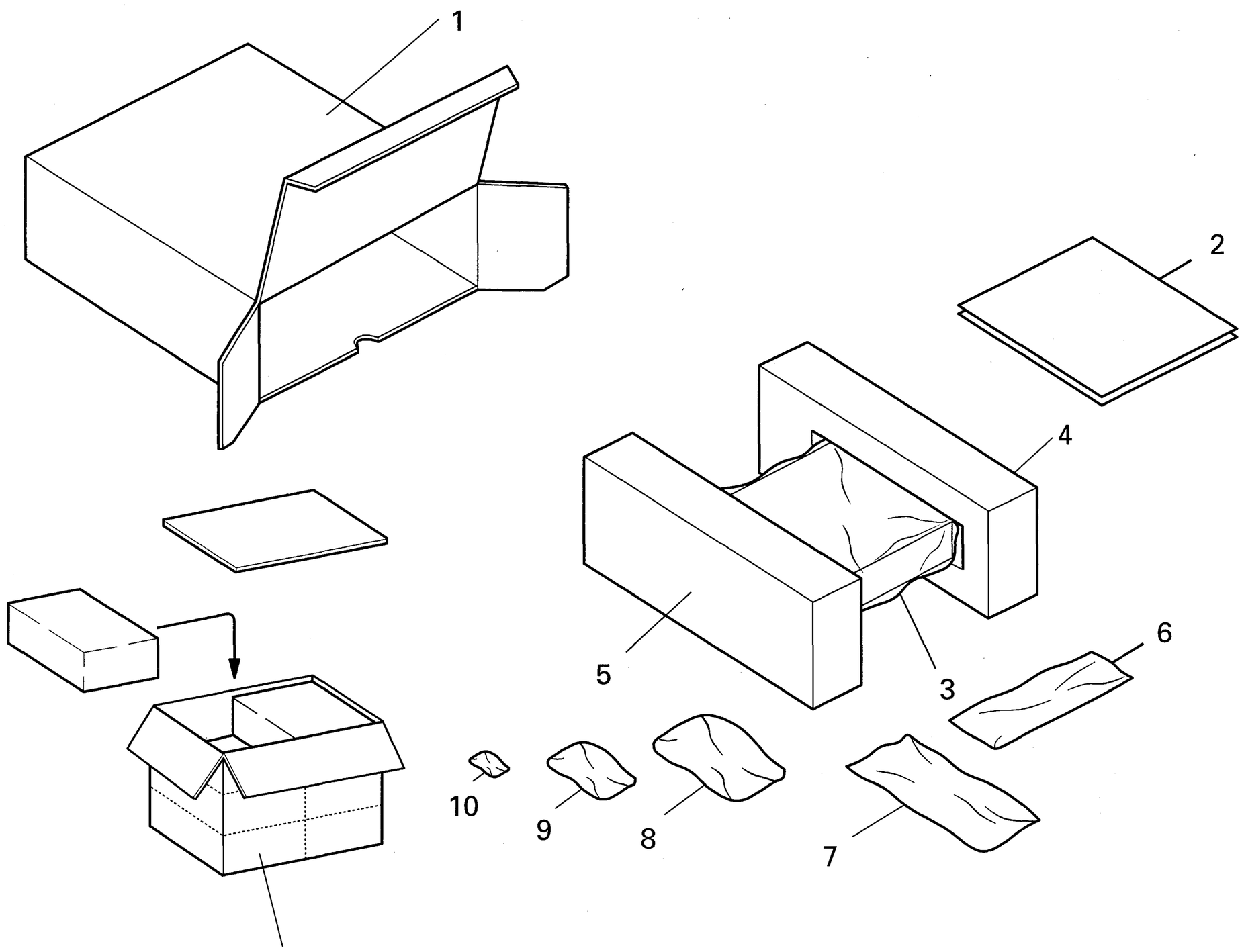


Fig. 1

NOTE:

- Parts marked by "＊"are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ▼ mark on the product are used for disassembly.
- **Parts List**

Mark No.	Description	Part No. KEH-P515/X1M/UC	KEH-P5600/X1M/UC	KEH-P5650/X1M/ES
1	Carton	CHG3209	CHG3208	CHG3210
2-1	Owner's Manual	CRD2213	CRD2211	CRD2215
2-2	Installation Manual	CRD2214	CRD2212	CRD2216
2-3	Owner's Manual	Not used	Not used	CRD2231
＊ 2-4	Warranty Card	CRY1070	Not used	Not used
＊ 2-5	Card	Not used	ARY1048	Not used
3	Polyethylene Bag	CEG1173	CEG1173	CEG-162
4	Protector	CHP1622	CHP1622	CHP1622
5	Protector	CHP1623	CHP1623	CHP1623
6	Case Assy	CXB1063	CXB1063	CXB1063
7	Cord Assy	CDE4849	CDE4849	CDE4849
8	Accessory Assy	CEA2002	CEA2002	CEA2002
9	Remote Control Unit	CXB1146	CXB1146	CXB1146
10	Battery	CEX1030	CEX1030	CEX1030
11	Contain Box	CHL3209	CHL3208	CHL3210

● Owner's Manual, Installation Manual

Model	Part No.	Language
KEH-P515/X1M/UC	CRD2213	English, French
	CRD2214	English, French
KEH-P5600/X1M/UC	CRD2211	English, French, Spanish
	CRD2212	English, French, Spanish
KEH-P5650/X1M/ES	CRD2215	English, Spanish
	CRD2231	Portuguese, Arabic
	CRD2216	English, Spanish, Portuguese, Arabic

● Accessory Assy

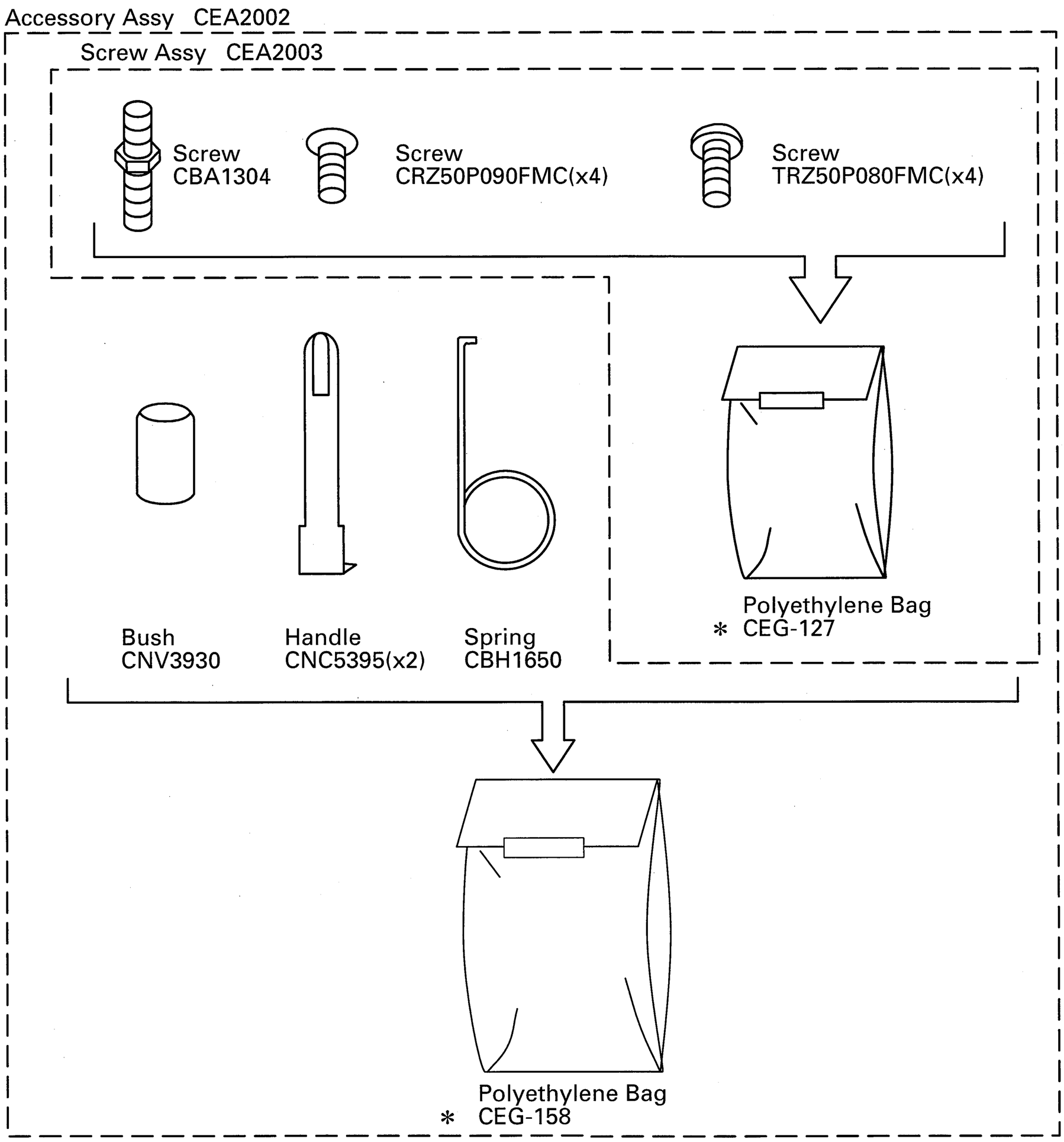


Fig. 2

2.2 EXTERIOR

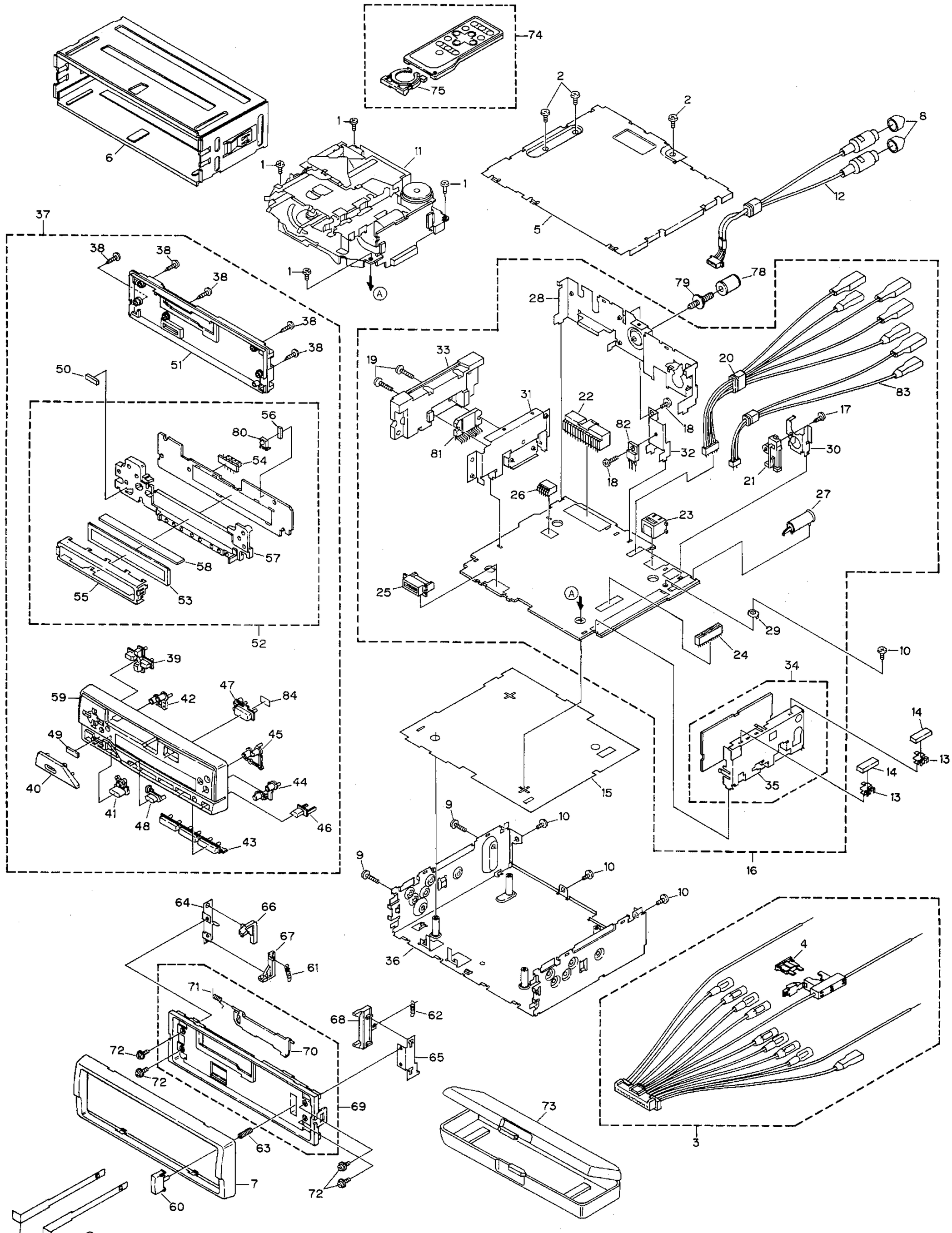


Fig. 3

● Parts List

Mark No.	Description	Part No. KEH-P515/X1M/UC	KEH-P5600/X1M/UC	KEH-P5650/X1M/ES
1	Screw	BSZ26P050FMC	BSZ26P050FMC	BSZ26P050FMC
2	Screw	BSZ30P060FMC	BSZ30P060FMC	BSZ30P060FMC
3	Cord Assy	CDE4849	CDE4849	CDE4849
4	Fuse(10A)	CEK1136	CEK1136	CEK1136
5	Case	CNB2074	CNB2074	CNB2074
6	Holder	CNC6798	CNC6798	CNC6798
7	Panel	CNS4200	CNS4200	CNS4200
8	Cap	CNV2680	CNV2680	CNV2680
9	Screw	BMZ30P100FMC	BMZ30P100FMC	BMZ30P100FMC
10	Screw	BSZ30P055FUC	BSZ30P055FUC	BSZ30P055FUC
11	Cassette Mechanism Module	EXK3660	EXK3610	EXK3610
12	Cord	CDE5176	CDE5176	CDE5176
13	Holder	CNC5704	CNC5704	CNC5704
14	Cushion	CNM4870	CNM4870	CNM4870
15	Insulator	CNM5045	CNM5045	CNM5045
16	Tuner Amp Unit	CWM5257	CWM5258	CWM5262
17	Screw	BPZ26P080FMC	BPZ26P080FMC	BPZ26P080FMC
18	Screw	BSZ26P080FMC	BSZ26P080FMC	BSZ26P080FMC
19	Screw	BSZ26P140FMC	BSZ26P140FMC	BSZ26P140FMC
20	Cord Assy(CN603)	CDE5180	Not used	Not used
21	Pin Jack(CN301)	CKB1028	CKB1028	CKB1028
22	Plug(CN951)	CKM1226	CKM1226	CKM1226
23	Connector(CN751)	CKS3408	CKS3408	CKS3408
24	Connector(CN602)	CKS3568	CKS3568	CKS3568
25	Connector(CN601)	CKS3581	CKS3581	CKS3581
26	Connector(CN302)	CKS3598	CKS3598	CKS3598
27	Antenna Jack(CN402)	CKX1056	CKX1056	CKX1056
28	Panel	CNB2134	CNB2113	CNB2113
29	Holder	CNC5399	CNC5399	CNC5399
30	Holder	CNC6531	CNC6531	CNC6531
31	Holder	CNC6674	CNC6674	CNC6674
32	Holder	CNC6845	CNC6845	CNC6845
33	Heat Sink	CNR1426	CNR1426	CNR1426
34	FM/AM Tuner Unit	CWE1417	CWE1417	CWE1485
35	Holder	CNC6555	CNC6555	CNC6555
36	Chassis Unit	CXA9858	CXA9858	CXA9858
37	Detach Grille Assy	CXB1047	CXB1048	CXB1052
38	Screw	BPZ20P120FZK	BPZ20P120FZK	BPZ20P120FZK
39	Button	CAC4859	CAC4859	CAC4859
40	Button(+,-)	CAC4860	CAC4860	CAC4860
41	Button(SOURCE)	CAC4861	CAC4861	CAC4861
42	Button(FUNC,AUDIO)	CAC4862	CAC4862	CAC4862
43	Button(1-6)	CAC4864	CAC4864	CAC4864
44	Button(PGM,DISPLAY)	CAC4865	CAC4865	CAC4865
45	Button(LOUD,CLOCK)	CAC4866	CAC4866	CAC4866

Mark No.	Description	Part No. KEH-P515/X1M/UC	KEH-P5600/X1M/UC	KEH-P5650/X1M/ES
46	Button(Detach)	CAC4870	CAC4870	CAC4870
47	Button(EJECT)	CAC4874	CAC4874	CAC4874
48	Button(◁▷)	CAC5130	CAC5130	CAC5130
49	Cushion	CNM5156	CNM5156	CNM5156
50	Cushion	CNM5271	CNM5271	CNM5271
51	Cover	CNS4194	CNS4194	CNS4194
52	Key Board Unit	CWM5270	CWM5270	CWM5270
53	LCD(LCD901)	CAW1410	CAW1410	CAW1410
54	Connector(CN901)	CKS3580	CKS3580	CKS3580
55	Holder	CNC6846	CNC6846	CNC6846
56	Spacer	CNM5043	CNM5043	CNM5043
57	Lighting Conductor	CNV4762	CNV4762	CNV4762
58	Connector	CNV4763	CNV4763	CNV4763
59	Grille Unit	CXB1103	CXB1104	CXB1107
60	Button	CAC4836	CAC4836	CAC4836
61	Spring	CBH1834	CBH1834	CBH1834
62	Spring	CBH1835	CBH1835	CBH1835
63	Spring	CBH1933	CBH1933	CBH1933
64	Bracket	CNC6135	CNC6135	CNC6135
65	Bracket	CNC6791	CNC6791	CNC6791
66	Arm	CNV4692	CNV4692	CNV4692
67	Arm	CNV4693	CNV4693	CNV4693
68	Arm	CNV4728	CNV4728	CNV4728
69	Panel Unit	CXB1035	CXB1035	CXB1035
70	Door	CAT1836	CAT1836	CAT1836
71	Spring	CBH1838	CBH1838	CBH1838
72	Screw	IMS20P030FZK	IMS20P030FZK	IMS20P030FZK
73	Case Assy	CXB1063	CXB1063	CXB1063
74	Remote Control Unit	CXB1146	CXB1146	CXB1146
75	Cover	CNS4139	CNS4139	CNS4139
76	Spring	CBH1650	CBH1650	CBH1650
77	Handle	CNC5395	CNC5395	CNC5395
78	Bush	CNV3930	CNV3930	CNV3930
79	Screw	CBA1304	CBA1304	CBA1304
80	IC(IC902)	SBX8035-H	SBX8035-H	SBX8035-H
81	IC(IC301)	TDA7384A	TDA7384A	TDA7384A
82	Transistor(Q951)	2SD2396	2SD2396	2SD2396
83	Cord Assy	Not used	CDE5178	CDE5178
84	Spacer	CNM5356	CNM5356	CNM5356

2.3 CASSETTE MECHANISM MODULE

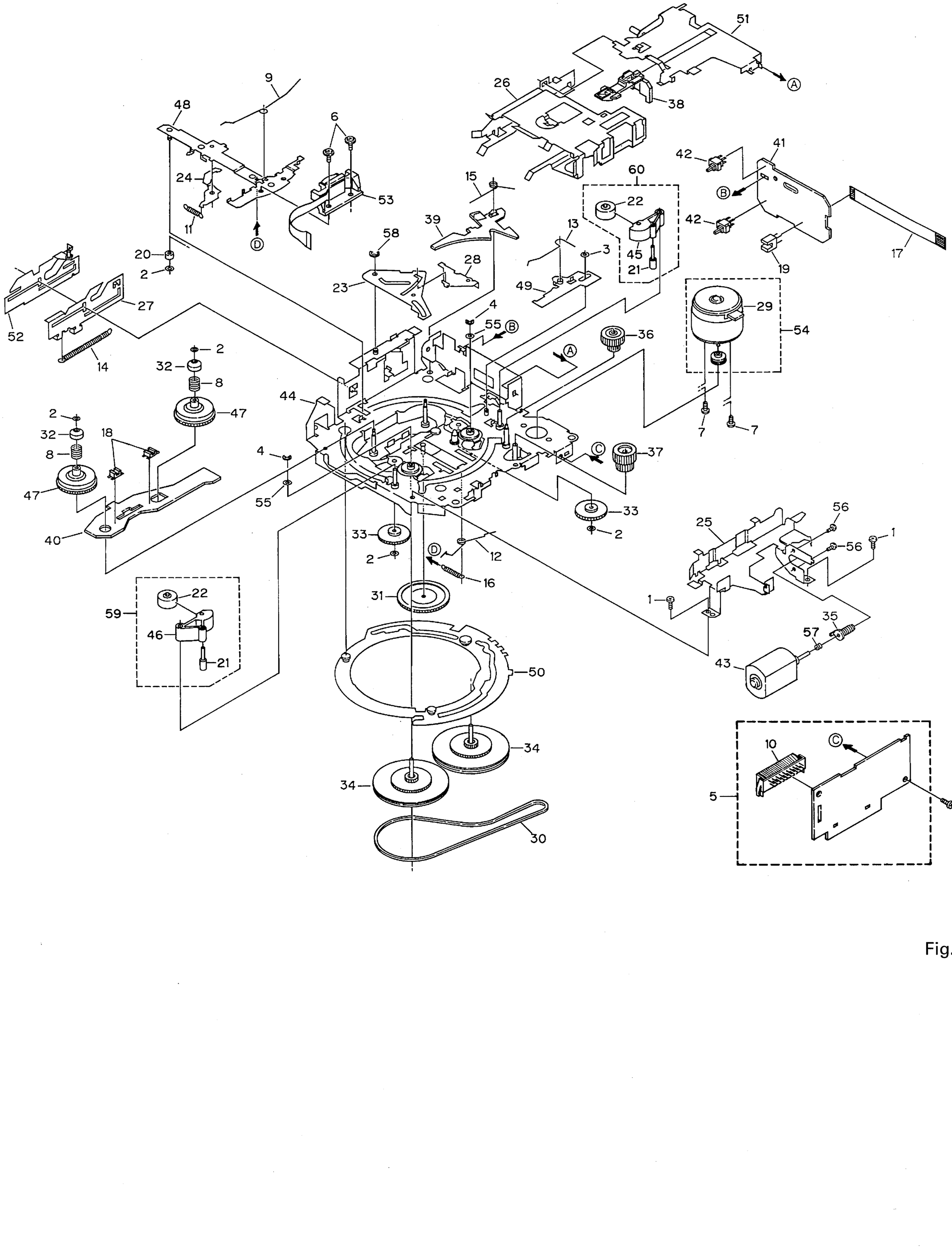


Fig. 4

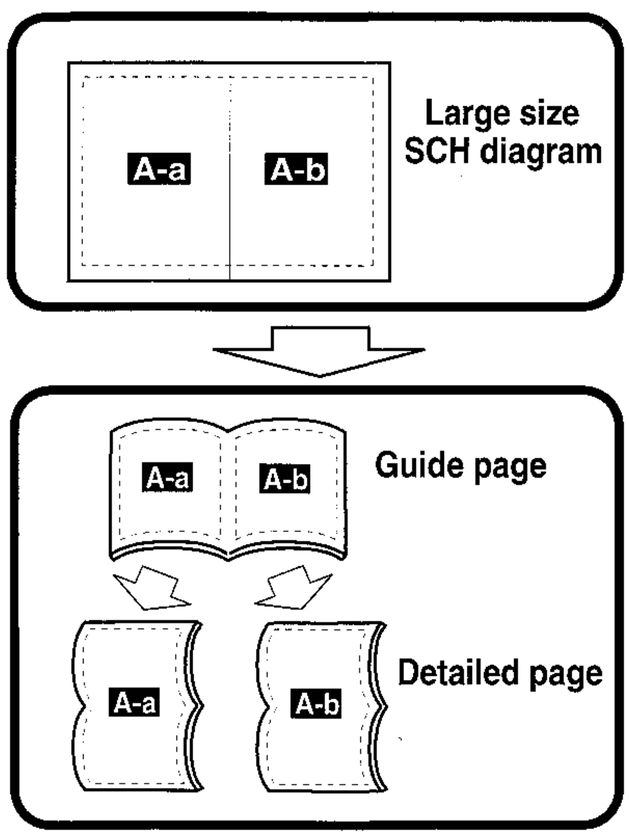
● Parts List

Mark No.	Description	Part No.
1	Screw	BSZ20P040FMC
2	Washer	CBF1037
3	Washer	CBF1038
4	Washer	CBG1003
5	Deck Unit(P515/X1M/UC)	EWM1011
	Deck Unit (P5600/X1M/UC,P5650/X1M/ES)	EWM1010
6	Screw	EBA1028
7	Screw	EBA1037
8	Spring	EBH1531
9	Spring	EBH1575
10	Plug(CN251)	CKS3540
11	Spring	EBH1515
12	Spring	EBH1587
13	Spring	EBH1517
14	Spring	EBH1518
15	Spring	EBH1519
16	Spring	EBH1537
17	Cord	EDD1020
18	Photo-interrupter(EGN2,3)	EGN1006
19	Photo-interrupter(EGN1)	EGN1005
20	Roller	ENR1031
21	Shaft	ELA1373
22	Pinch Roller	ENV1501
23	Arm	ENC1396
24	Arm	ENC1397
25	Guide	ENC1481
26	Holder	ENC1417
27	Lever	ENC1448
28	Arm	ENC1401
29	Motor	EXM1028
30	Belt	ENT1027
31	Gear	ENV1347
32	Collar	ENV1508
33	Gear	ENV1350
34	Flywheel	ENV1516
35	Worm Gear	ENV1439
36	Worm Wheel	ENV1440
37	Gear	ENR1028
38	Lever	ENV1442
39	Arm	ENV1445
40	Gathering P.C.Board	ENX1037
41	Gathering P.C.Board	ENX1042
42	Switch(S1,S2)	ESG1004
43	Motor Unit(M2)	EXA1485
44	Chassis Unit	EXA1455
45	Pinch Holder	ENV1485
46	Pinch Holder	ENV1486
47	Reel Unit	EXA1456
48	Head Base Unit	EXA1457
49	Lever Unit	EXA1438
50	Gear Unit	EXA1436
51	Frame Unit	EXA1458
52	Lever Unit	EXA1439
53	Head Assy(HD1) (P515/X1M/UC)	EXA1508
	Head Assy(HD1) (P5600/X1M/UC,P5650/X1M/ES)	EXA1506
54	Motor Unit(M1)	EXA1491
55	Washer	HBF-179
56	Screw	BMZ20P022FMC
57	Spring	EBH1545
58	Washer	YE20FUC
59	Pinch Holder Unit	EXA1501
60	Pinch Holder Unit	EXA1500

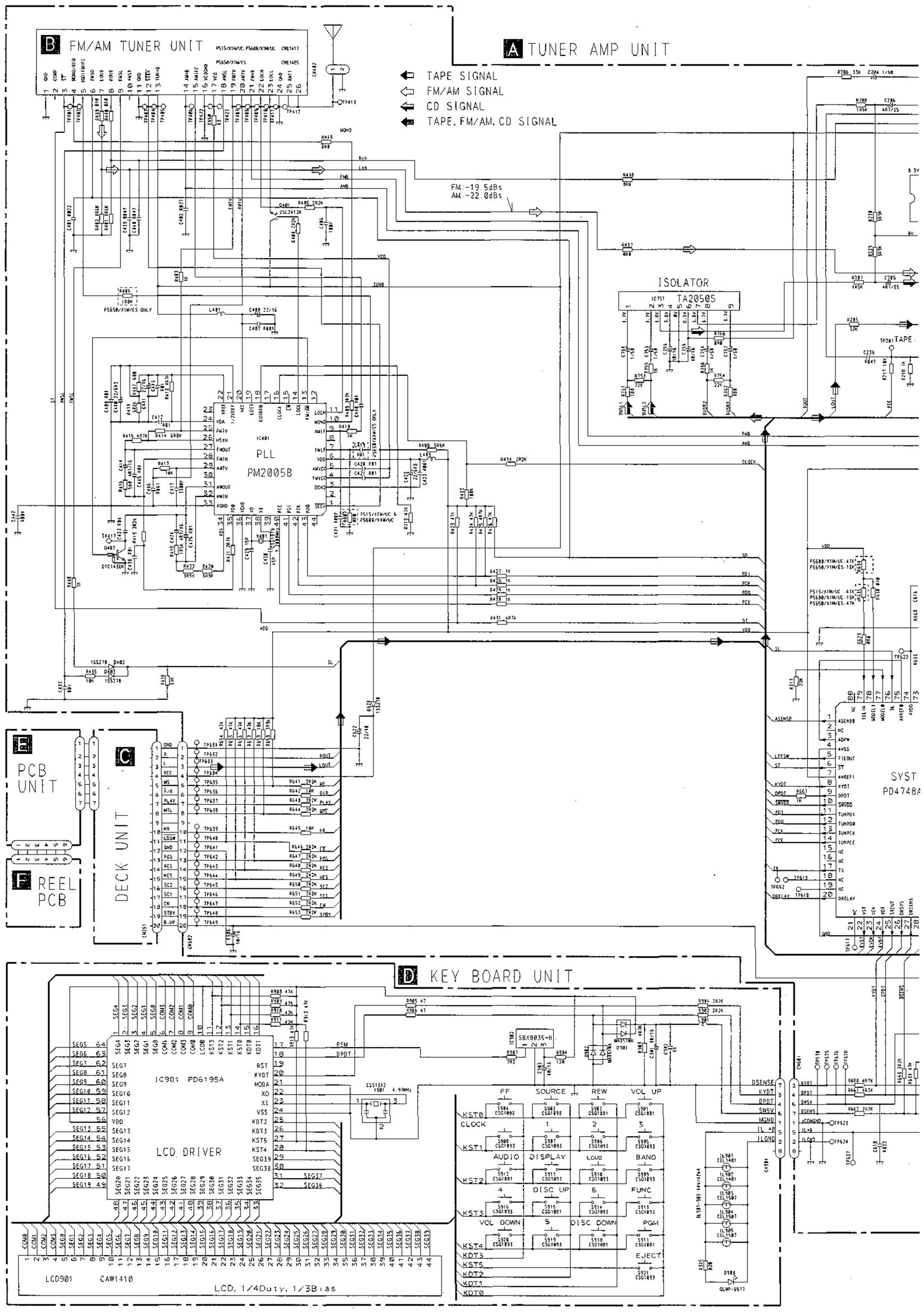
3. SCHEMATIC DIAGRAM

3.1 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".



A-a



A-d

A-b

NOTE:

⊣⊢ Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

⊣⊢ Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

The △mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

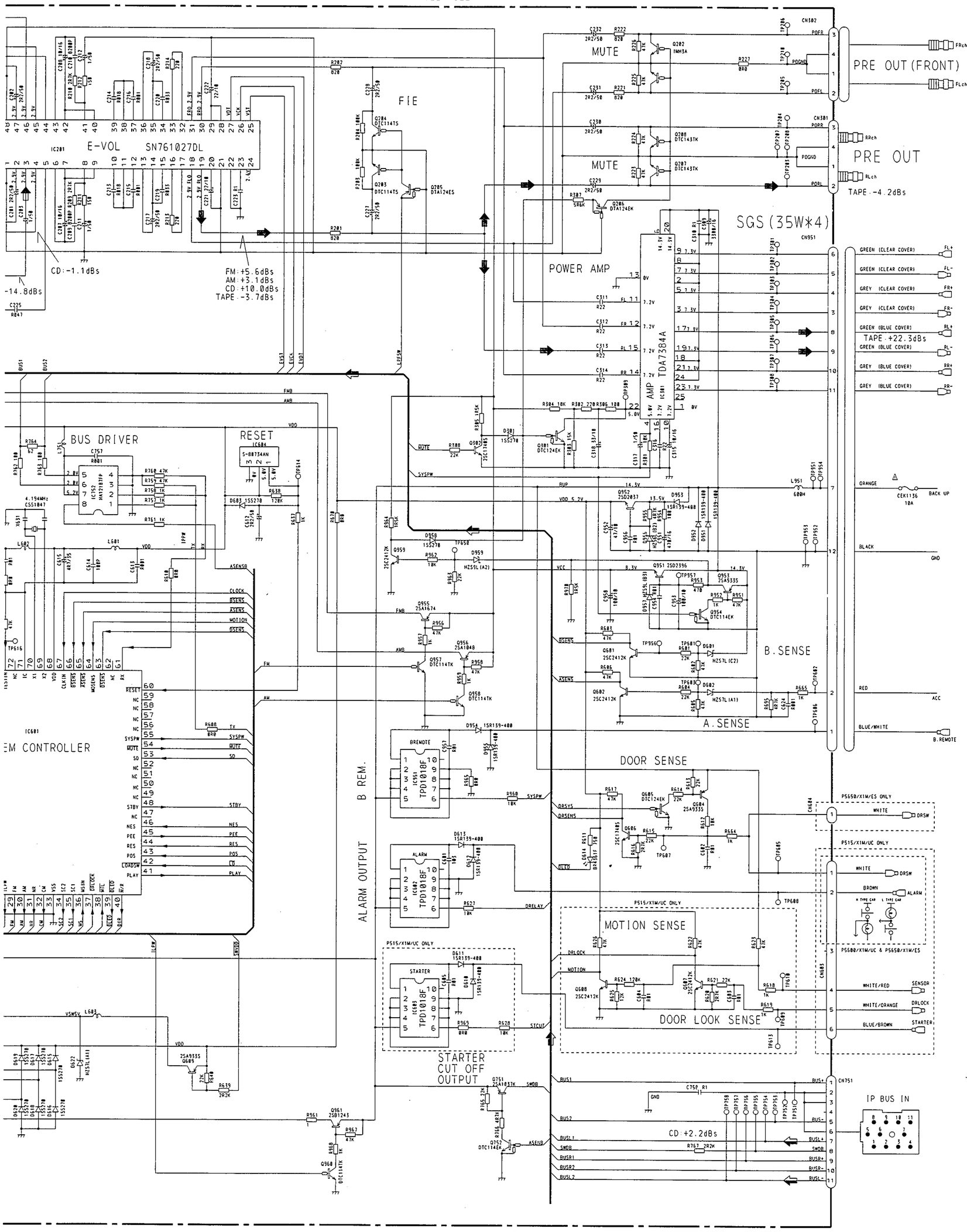


Fig. 5

A-a A-b

TUNER AMP UNIT

TAPE SIGNAL
FM/AM SIGNAL
CD SIGNAL
TAPE, FM/AM, CD SIGNAL

FM/AM TUNER UNIT

Fig. 6

A-a A-b

The △mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

NOTE:
Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.
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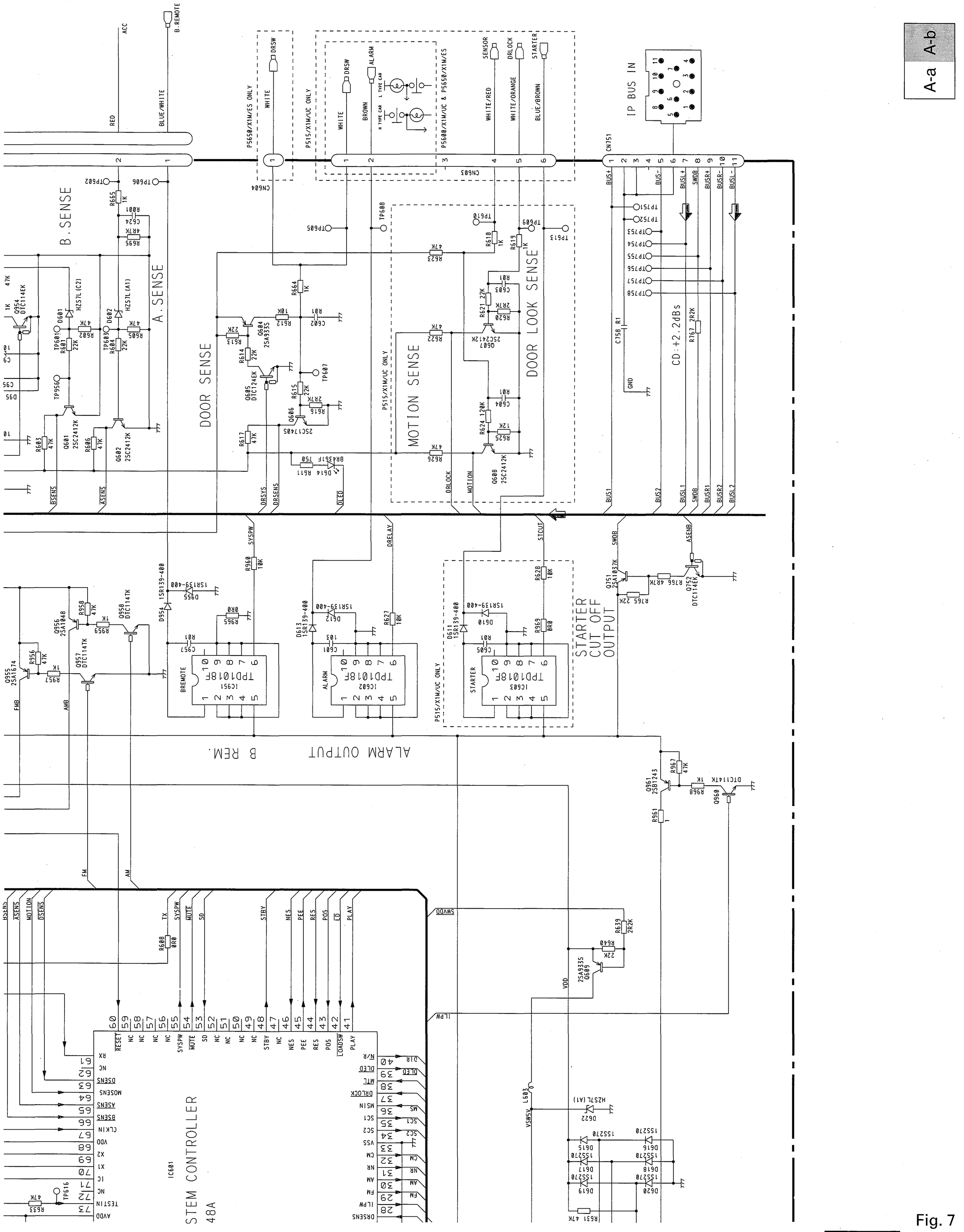
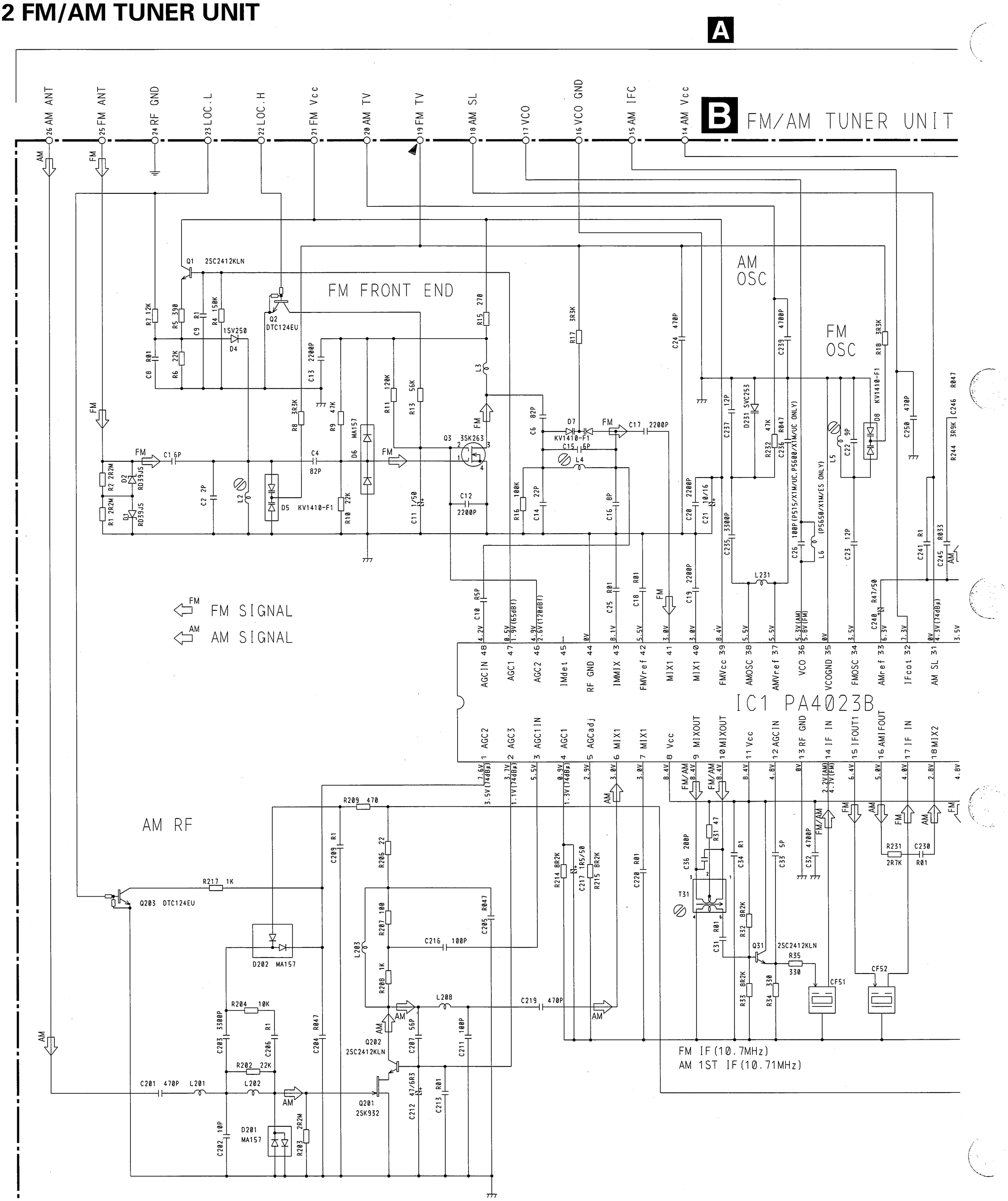
A-a A-b


B.SENSE
A.SENSE
DOOR SENSE
MOTION SENSE
DOOR LOOK SENSE
STARTER CUT OFF OUTPUT
ALARM OUTPUT B REM.
STEM CONTROLLER 48A
IP BUS IN
CD:+2.2dBs
P5650/X1W/ES ONLY
P515/X1W/UC ONLY
P5600/X1W/UC & P5650/X1W/ES
P515/X1W/UC ONLY
RED
ACC
BLUE/WHITE
B.REMOTE
WHITE
DRSW
BROWN
ALARM
WHITE/RED
SENSOR
WHITE/ORANGE
DRLOCK
BLUE/BROWN
STARTER
CN751
CN603
CN604
BUS+
BUS-
BUSL+
SWDB
BUSR+
BUSR-
BUSL-
BUS1
BUS2
BUSL1
SWDB
BUSR1
BUSR2
BUSL2
GND
BSENS
ASENS
DRSYS
DRSENS
DLED
DRLOCK
MOTION
SYSPW
DRELAY
STCUT
ASENB
SWVDD
ILPW
VDD
VSWSW
FM
AM
BREMOTE
ALARM
STARTER
IC601
RESET
SYSPW
MUTE
SD
STBY
NES
PEE
RES
POS
LOADSW
PLAY
TX
RX
DSENS
MOSENS
CLKIN
TESTIN
AVDD
DRSENS
MTL
DRLOCK
MSIN
SCL
SDA
FM
ILPW
AM
CM
NR
VSS
SCL
SCK
MS
DLR
DLED
N/R

3.2 FM/AM TUNER UNIT



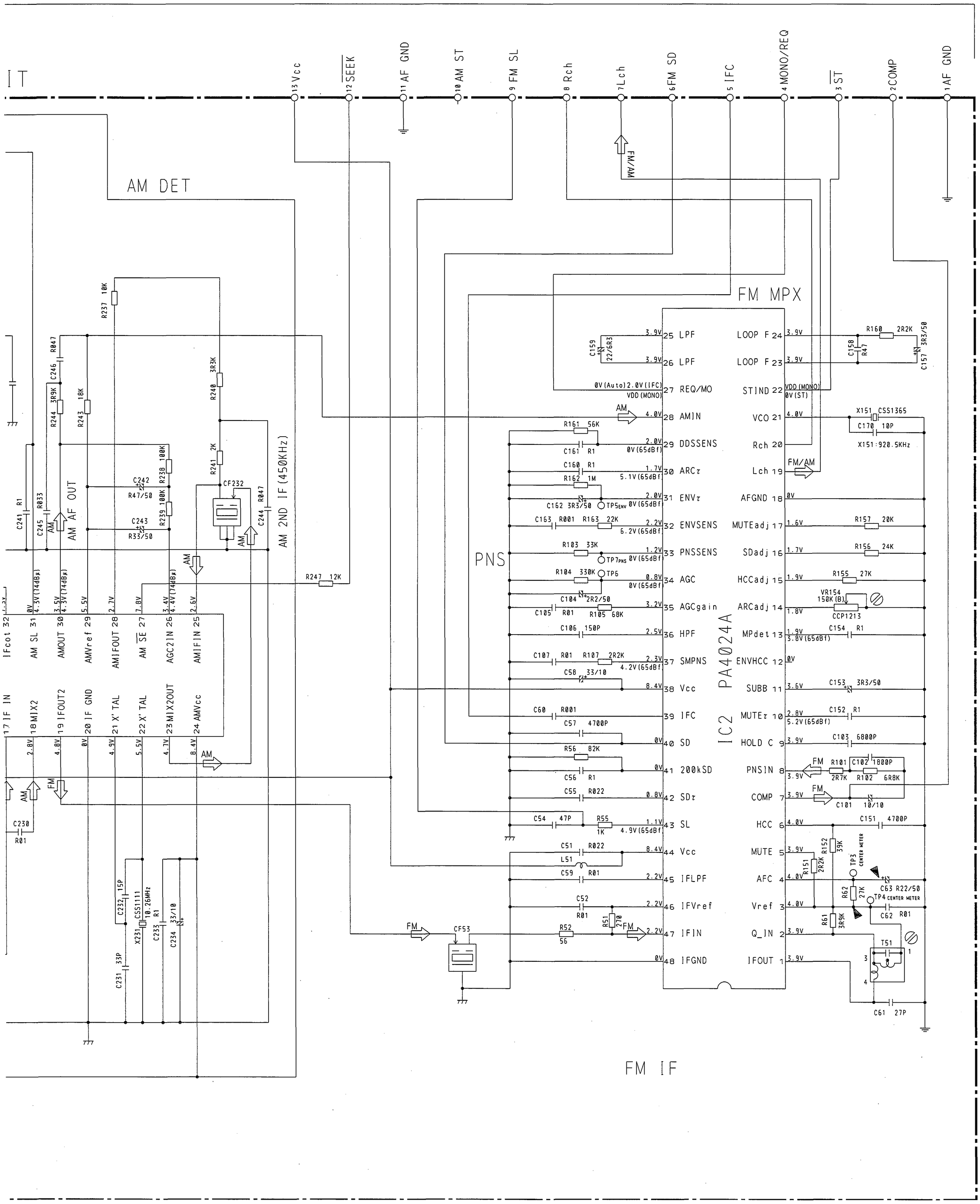
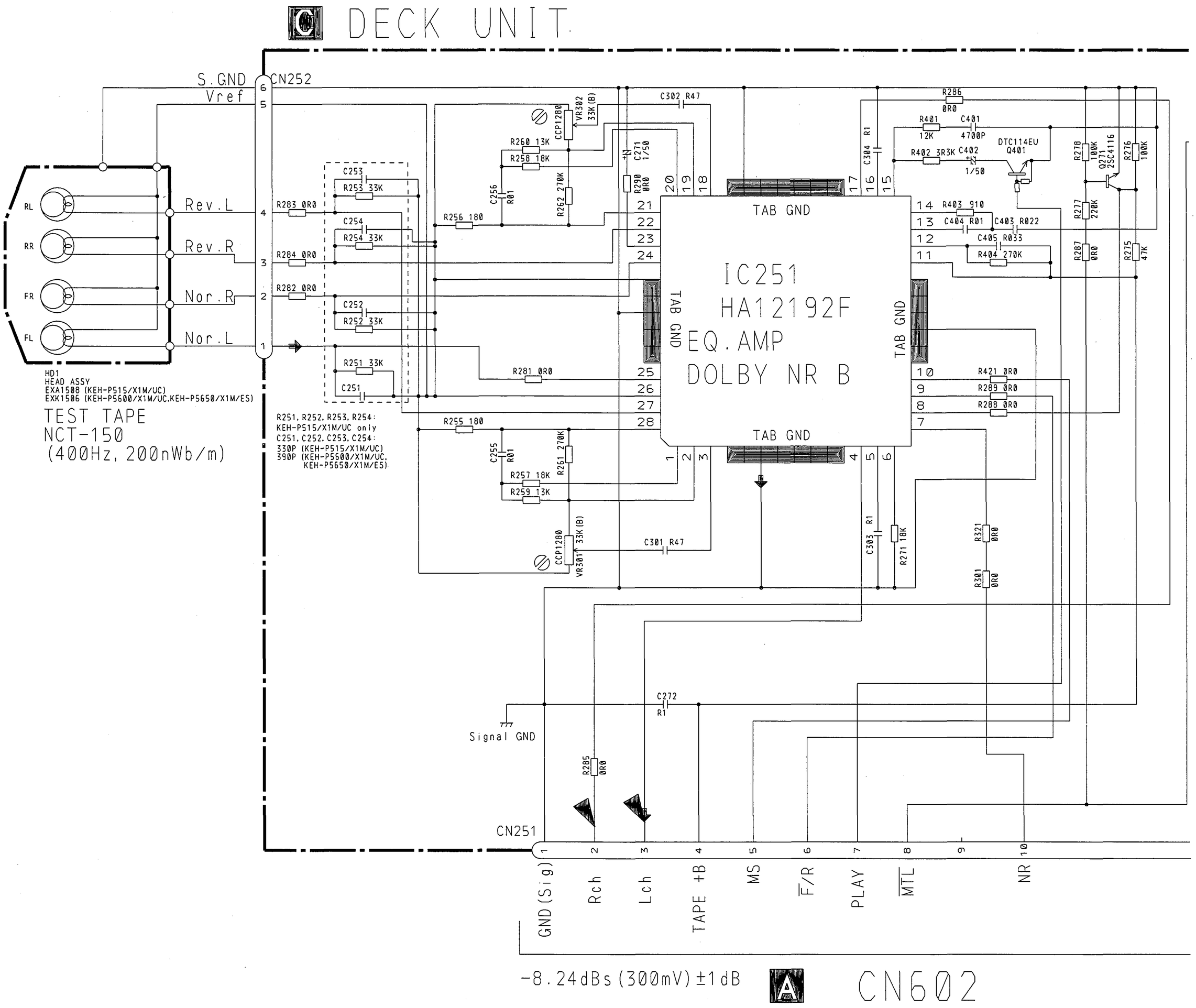
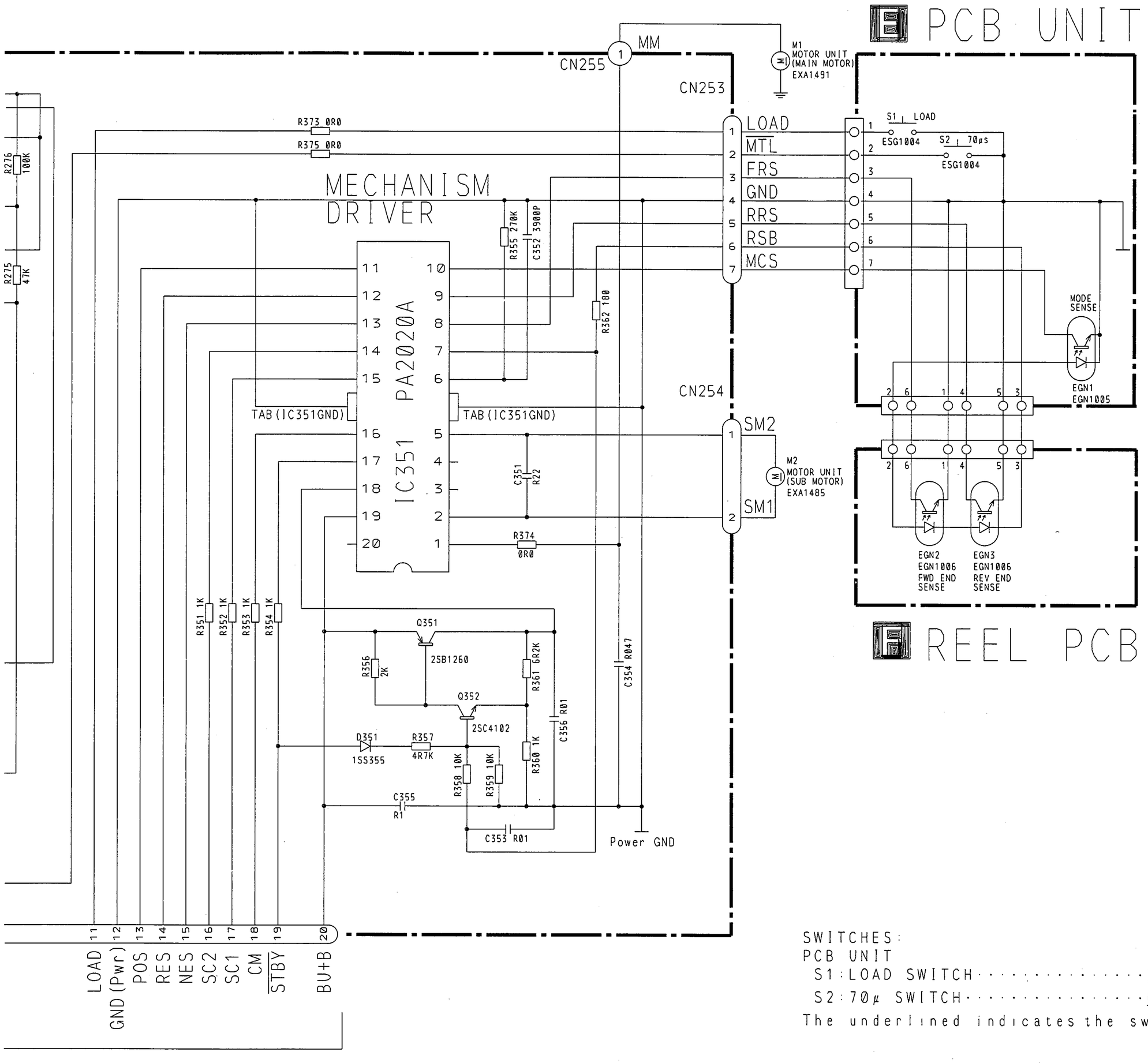

IT
13 Vcc
12 SEEK
11 AF GND
10 AM ST
9 FM SL
8 Rch
7 Lch
6 FM SD
5 IFC
4 MONO/REQ
3 ST
2 COMP
1 AF GND
FM/AM
AM DET
R237 10K
R247 12K
R240 3R3K
R241 2K
CF232
C242 R47/50
C243 R33/50
R238 100K
R239 100K
C241 R1
C245 R033
C246 R047
R244 3R9K
R243 18K
C244 R047
AM AF OUT
AM 2ND IF (450KHz)
AM
FM
17 IF IN 2.8V
18 MIX2 4.8V
19 IFOUT2 0V
20 IF GND 4.9V
21 X'TAL 5.5V
22 X'TAL 4.7V
23 MIX2OUT 8.4V
24 AMVcc
C230 R01
C231 33P
X231 CSS1111 10.26MHz
C232 15P
C233 R1
C234 33/10
IFcot 32 1.2V
AM SL 31 0V 4.3V(74dBμ)
AMOUT 30 3.5V 4.3V(74dBμ)
AMVref 29 5.5V
AMIFOUT 28 2.7V
AM SE 27 7.8V
AGC2IN 26 3.4V 4.4V(74dBμ)
AMIFIN 25 2.6V
FM MPX
IC2 PA402A
25 LPF 3.9V
26 LPF 3.9V
C159 +N 22/6R3
27 REQ/MO 0V(Auto)2.0V(IFC) VDD(MONO)
28 AMIN AM 4.0V
29 DDSSENS 2.0V 0V(65dBf)
30 ARCτ 1.7V 5.1V(65dBf)
31 ENVτ 2.0V 0V(65dBf)
32 ENVSENS 2.2V 6.2V(65dBf)
33 PNSSENS 1.2V 0V(65dBf)
34 AGC 0.8V 0V(65dBf)
35 AGCgain 3.2V
36 HPF 2.5V
37 SMPNS 2.3V 4.2V(65dBf)
38 Vcc 8.4V
39 IFC
40 SD 0V
41 200kSD 0V
42 SDτ 0.8V
43 SL 1.1V 4.9V(65dBf)
44 Vcc 8.4V
45 IFLPF 2.2V
46 IFVref 2.2V
47 IFIN 2.2V
48 IFGND 0V
PNS
C161 R1 56K
C160 R1
R162 1M
C162 3R3/50 TP5ENV
C163 R001 R163 22K
R103 33K TP7PNS
R104 330K TP6
C104 2R2/50
C105 R01 R105 68K
C106 150P
C107 R01 R107 2R2K
C58 33/10
C60 R001
C57 4700P
R56 82K
C56 R1
C55 R022
C54 47P R55 1K
C51 R022
L51
C59 R01
C52 R01
R52 56
R51 270
CF53
FM
LOOP F 24 3.9V
LOOP F 23 3.9V
STIND 22 VDD(MONO) 0V(ST)
VCO 21 4.0V
Rch 20
Lch 19
AFGND 18 0V
MUTEadj 17 1.6V
SDadj 16 1.7V
HCCadj 15 1.9V
ARCadj 14 1.8V
MPdet 13 1.9V 3.8V(65dBf)
ENVHCC 12 0V
SUBB 11 3.6V
MUTEτ 10 2.8V 5.2V(65dBf)
HOLD C 9 3.9V
PNSIN 8 3.9V
COMP 7 3.9V
HCC 6 4.0V
MUTE 5 3.9V
AFC 4 4.0V
Vref 3 4.0V
Q_IN 2 3.9V
IFOUT 1 3.9V
R160 2R2K
C158 R47
C157 3R3/50
X151 CSS1365
C170 10P
X151:920.5KHz
R157 20K
R156 24K
R155 27K
VR154 150K(B)
CCP1213
C154 R1
C153 3R3/50
C152 R1
C103 6800P
R101 2R7K
C102 1800P
R102 6R8K
C101 10/10
C151 4700P
R152 39K
R151 2R2K
TP3 CENTER METER
R62 27K
C63 R22/50
TP4 CENTER METER
C62 R01
R61 3R9K
T51
C61 27P
FM IF

Fig. 8

3.3 CASSETTE MECHANISM MODULE





SWITCHES:
PCB UNIT
S1:LOAD SWITCH·····EJECT-PLAY
S2:70μ SWITCH·····ON-OFF
The underlined indicates the switch position.

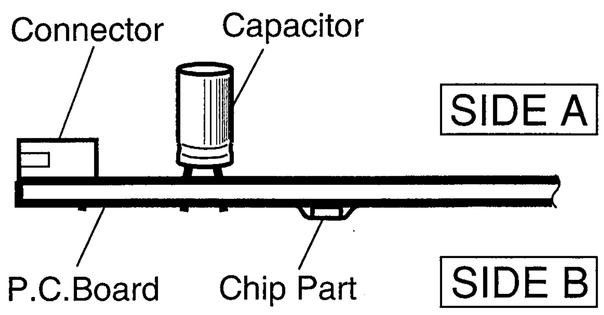
Fig. 9

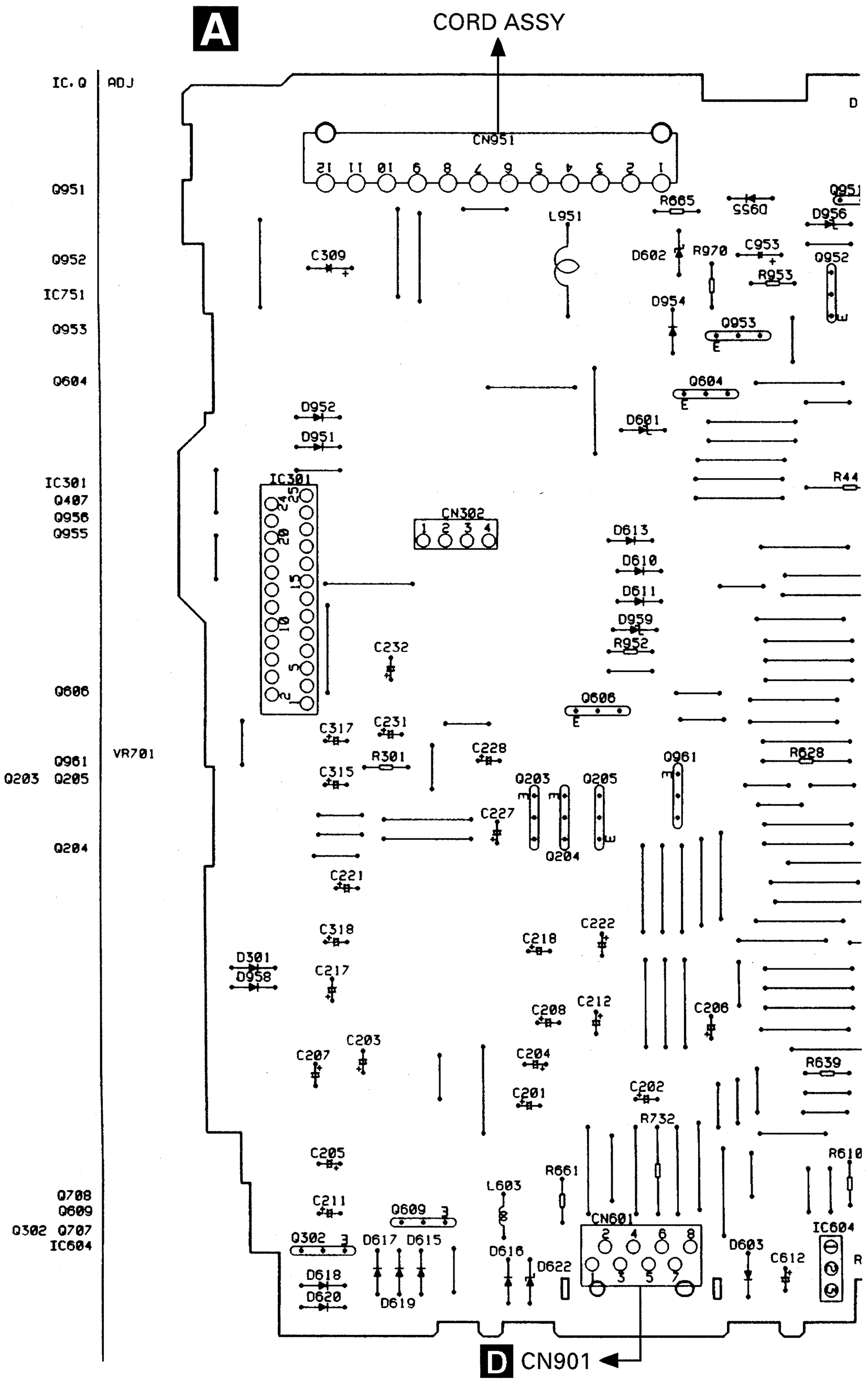
4. PCB CONNECTION DIAGRAM

4.1 TUNER AMP PCB

NOTE FOR PCB DIAGRAMS

1. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams





SIDE A

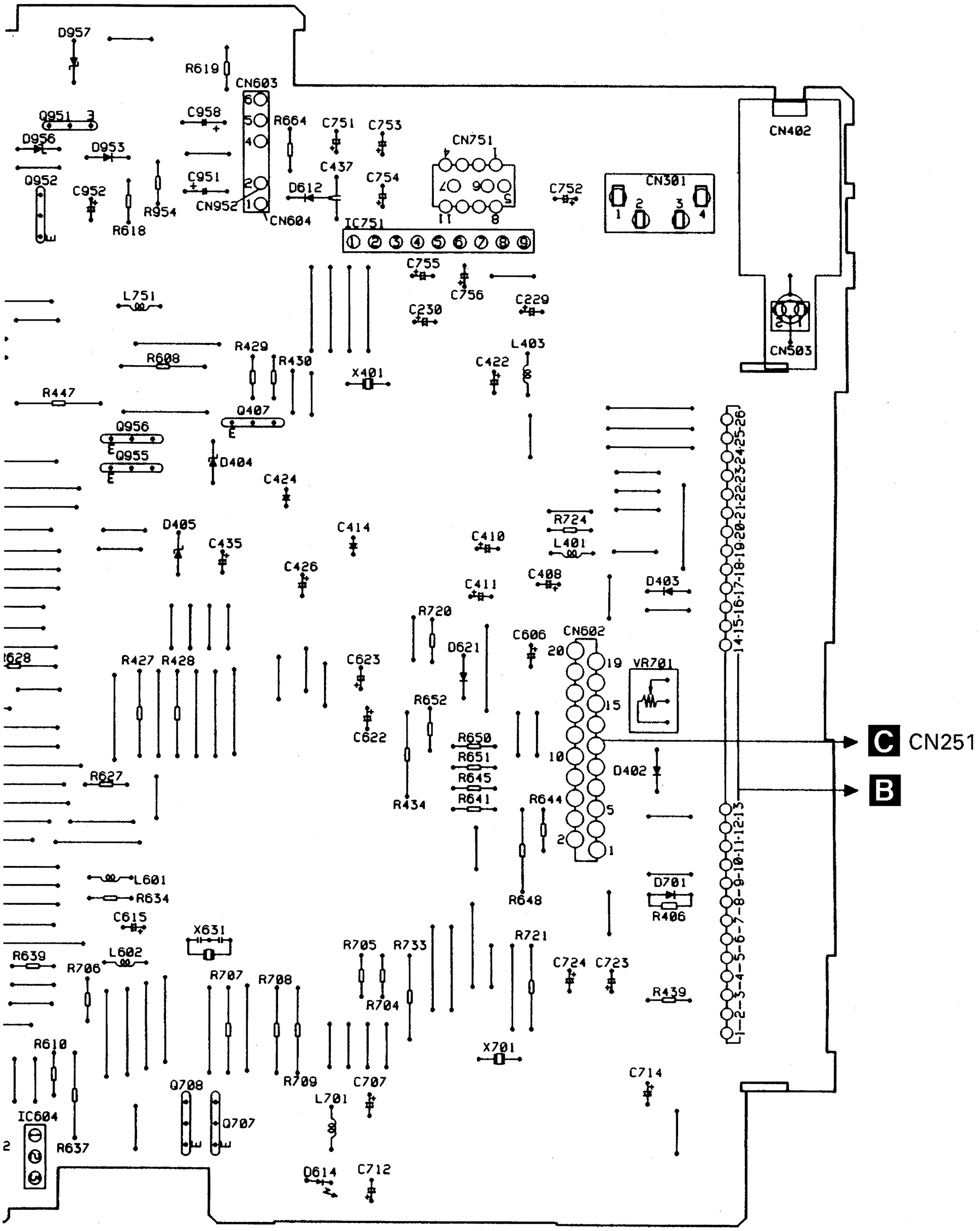
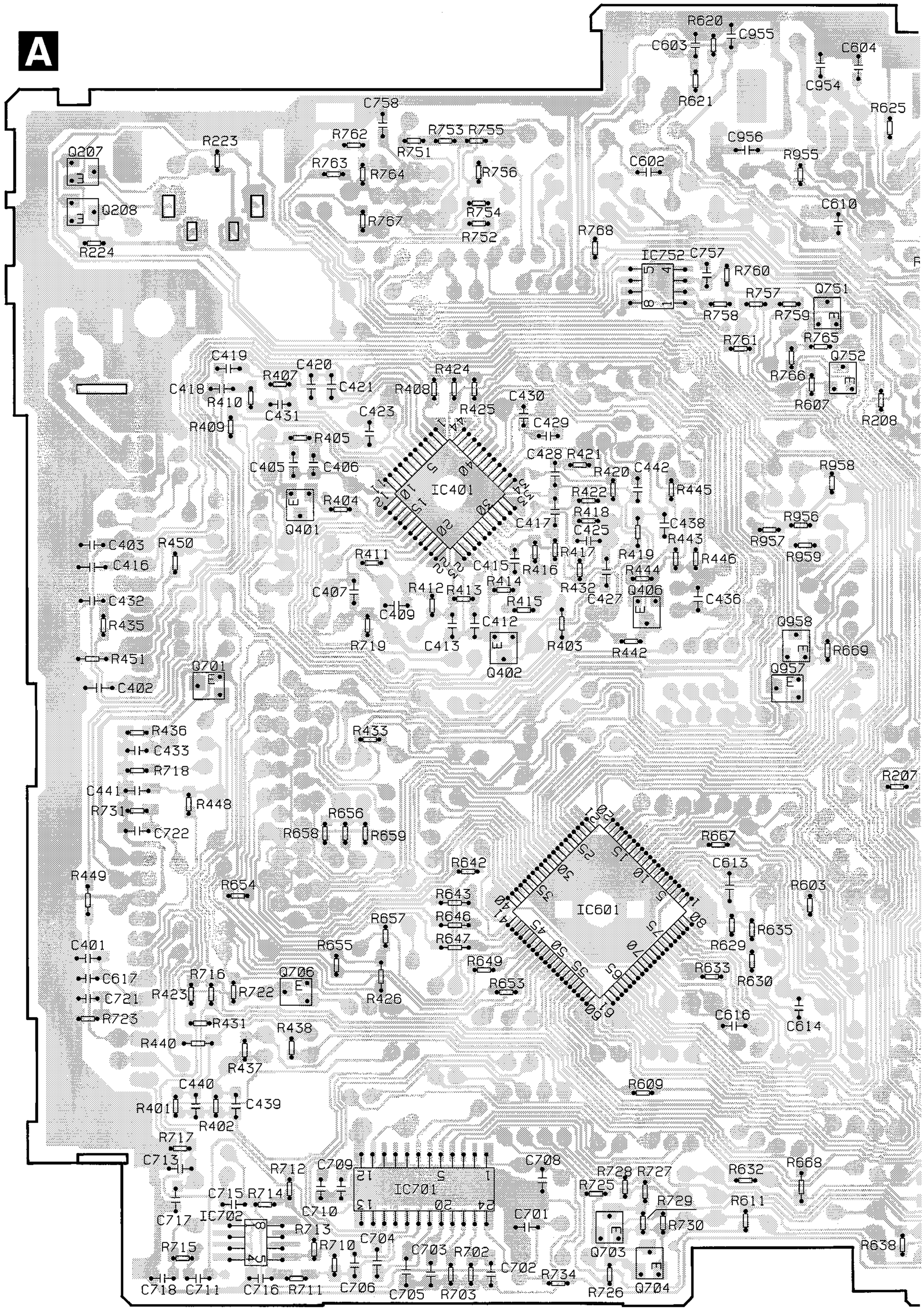
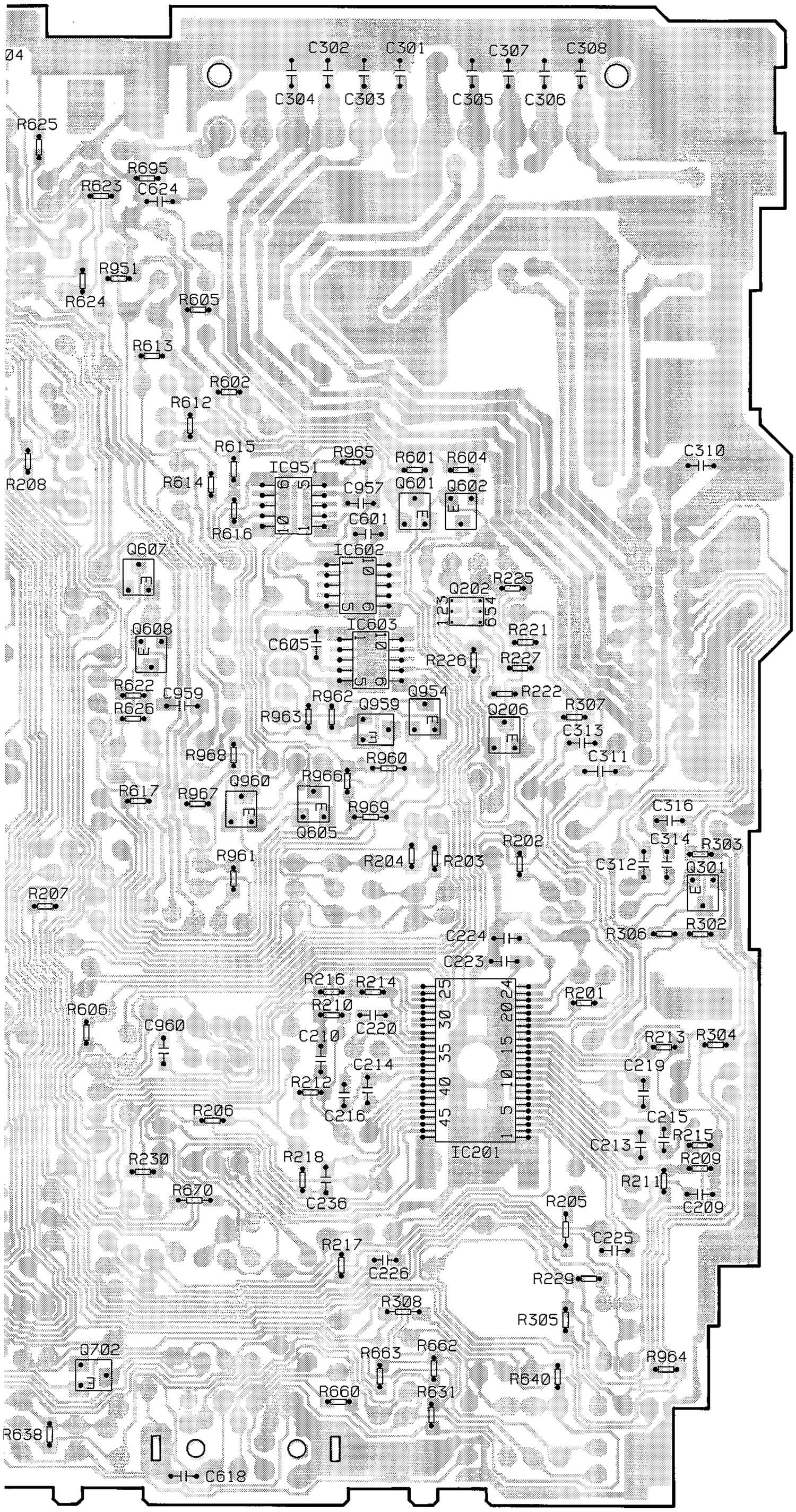

D957
R619
CN603
Q951
C958
R664
C751
C753
D956
D953
C437
CN751
Q952
C952
C951
D612
C754
C752
CN301
R954
R618
CN952
CN604
IC751
C755
C756
CN402
L751
C230
C229
R429
L403
R608
R430
C422
X401
R447
Q407
Q956
Q955
D404
C424
CN503
D405
C435
C414
R724
C410
L401
C426
C408
D403
C411
R720
C606
CN602
D621
C623
VR701
R427
R428
R652
C622
R650
R651
R645
R641
R434
R644
D402
C
CN251
B
R627
L601
R634
R648
D701
R406
C615
X631
R721
R639
L602
R705
R733
R706
R707
R708
C724
C723
R439
R704
R610
X701
C714
Q708
R709
C707
L701
Q707
IC604
R637
D614
C712

Fig. 10

A


R620
C955
C603
C604
C954
R621
R625
C758
R762
R753 R755
R751
R223
Q207
C956
R955
C602
R763
R764
R756
Q208
C610
R754
R767
R752
R768
R224
IC752
C757
R760
R757
Q751
R758
R759
R761
R765
Q752
R766
R607
R208
C419
C420
R424
R407
C418
R408
C421
C430
R410
C431
R425
C423
C429
R409
R405
C428
R421
R958
C405
C406
R420
C442
R422
R445
IC401
R404
R418
R956
Q401
C438
C425
R957
C403
R450
C417
R443
R417
R419
R959
R411
C416
C415
R416
R446
R444
C407
R412
R413
R414
R432
Q406
C427
C436
C432
R415
C409
C412
Q958
R435
R719
C413
R403
R669
R451
R442
Q957
Q701
C402
R436
R433
C433
R718
R207
C441
R448
R731
C722
R656
R658
R659
R667
R642
C613
R449
R654
R643
R603
R646
R657
IC601
C401
R647
R635
R655
R649
R629
C617
R716
Q706
R633
R630
R423
R722
R653
R426
C721
C616
C614
R723
R431
R438
R440
R437
R609
C440
C439
R401
R402
R717
C713
R712
C709
R728
R727
R632
R668
R725
C708
C715
R714
IC701
R729
R611
C710
C701
IC702
R730
C717
R713
R710
C704
R638
R715
C703
R702
Q703
Q704
C718
C711
C716
R711
C706
C705
R703
C702
R734
R726

SIDE B



IC, Q

Q207

Q208

IC752

Q751

Q752

IC951
Q601
Q602

IC602
IC401 Q607

Q202
Q401
Q608
IC603
Q406
Q959 Q954 Q206
Q958

Q701 Q957
Q402 Q960

Q605

Q301

IC601

Q706

IC201

Q702
IC701
IC702

Q703

Q704

Fig. 11

4.2 KEY BOARD UNIT

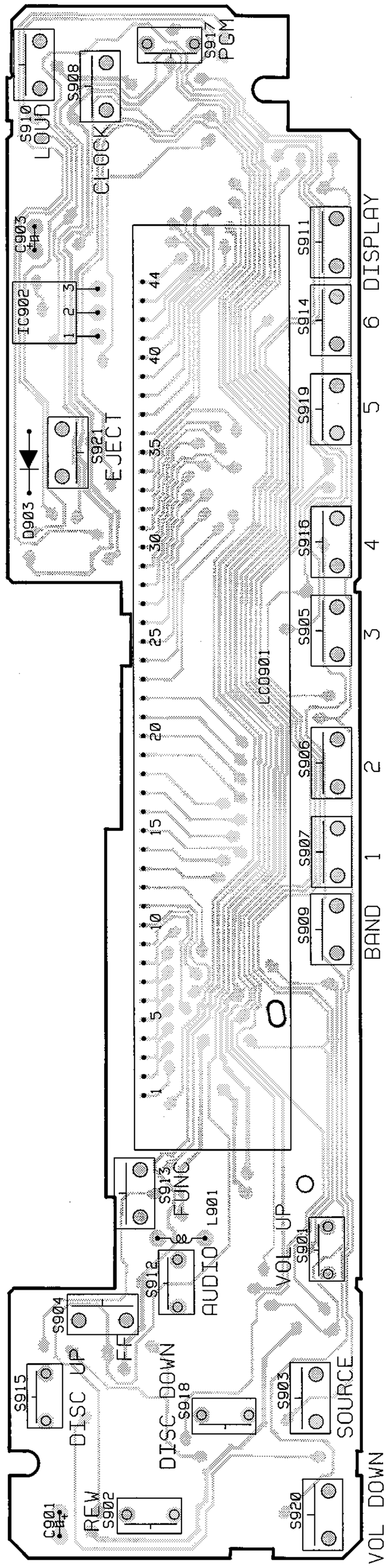


Fig. 12

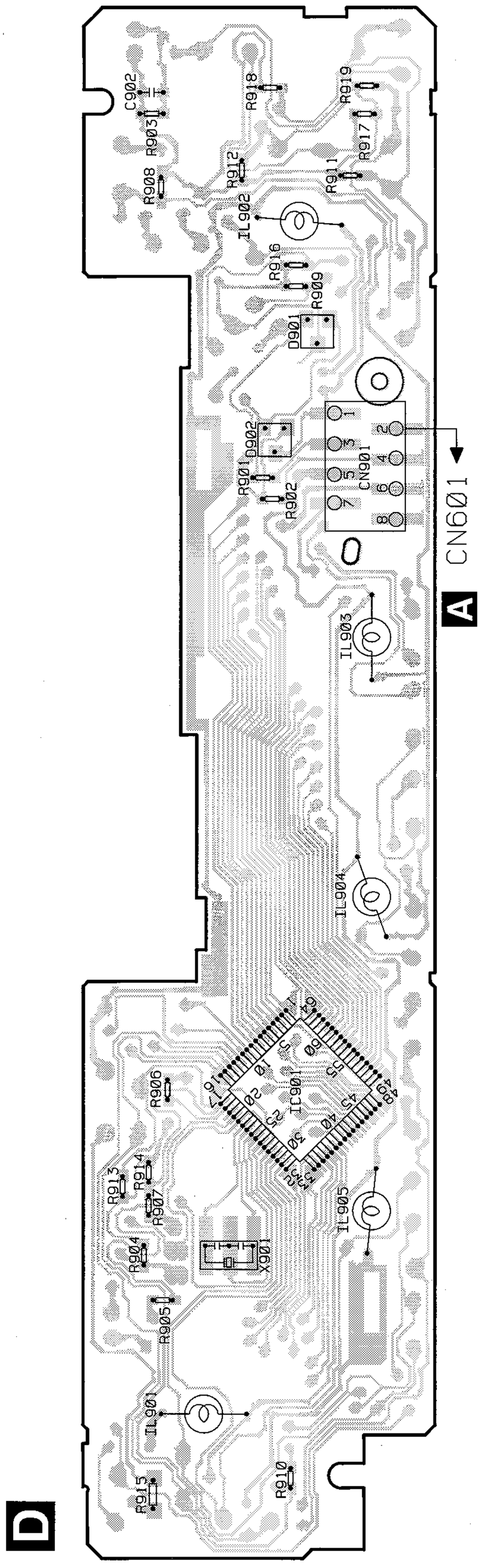

IC,0
IC901
SIDE B
C902
R903
R908
R912
R918
R919
R917
R911
IL902
R916
R909
D901
D902
R901
R902
CN901
CN601
IL903
IL904
IL905
R906
R913
R914
R907
R904
X901
R905
IL901
R915
R910

Fig. 13

4.3 FM/AM TUNER UNIT

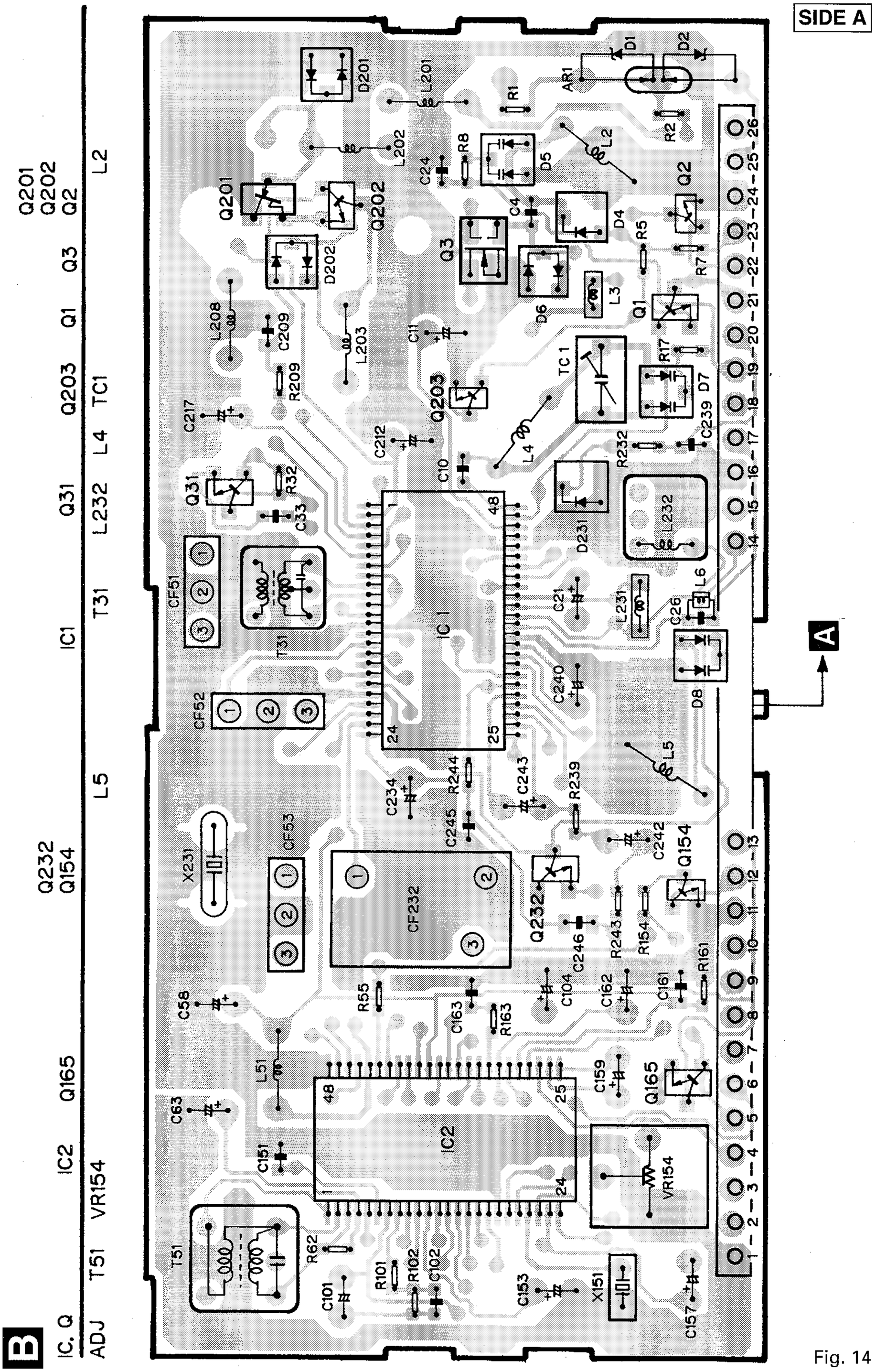


Fig. 14

SIDE B

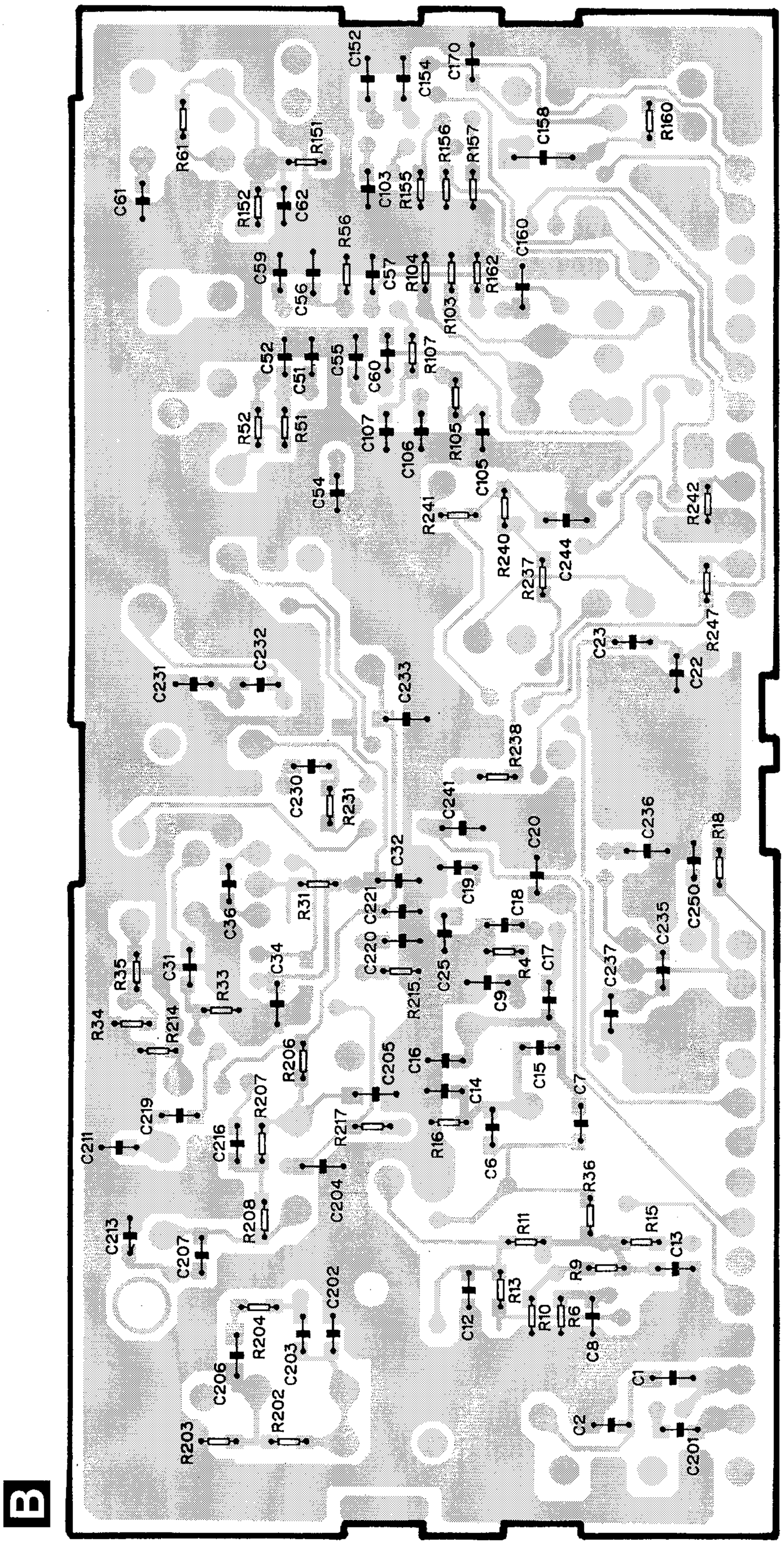

C61
R61
R152
C62
R151
C152
C154
C170
C103
R155
R156
R157
C158
R160
C59
C56
R56
C57
R104
R103
R162
C160
C52
C51
C55
C60
R107
R52
R51
C107
C106
R105
C105
C54
R241
R240
C244
R242
R237
C231
C232
C233
C23
C22
R247
C230
R231
C241
R238
C32
C221
C220
R215
C25
C19
C18
C20
C236
C237
C235
C250
R18
R31
C36
C34
R35
R34
R214
C31
R33
C9
R4
C17
C16
C15
C14
C7
C6
R36
C205
R206
R217
R16
C211
C219
C216
R207
C204
R208
C213
C207
C206
R204
C203
C202
R203
R202
R11
R15
C13
R9
C12
R13
R10
R6
C8
C1
C2
C201

Fig. 15

4.4 CASSETTE MECHANISM MODULE

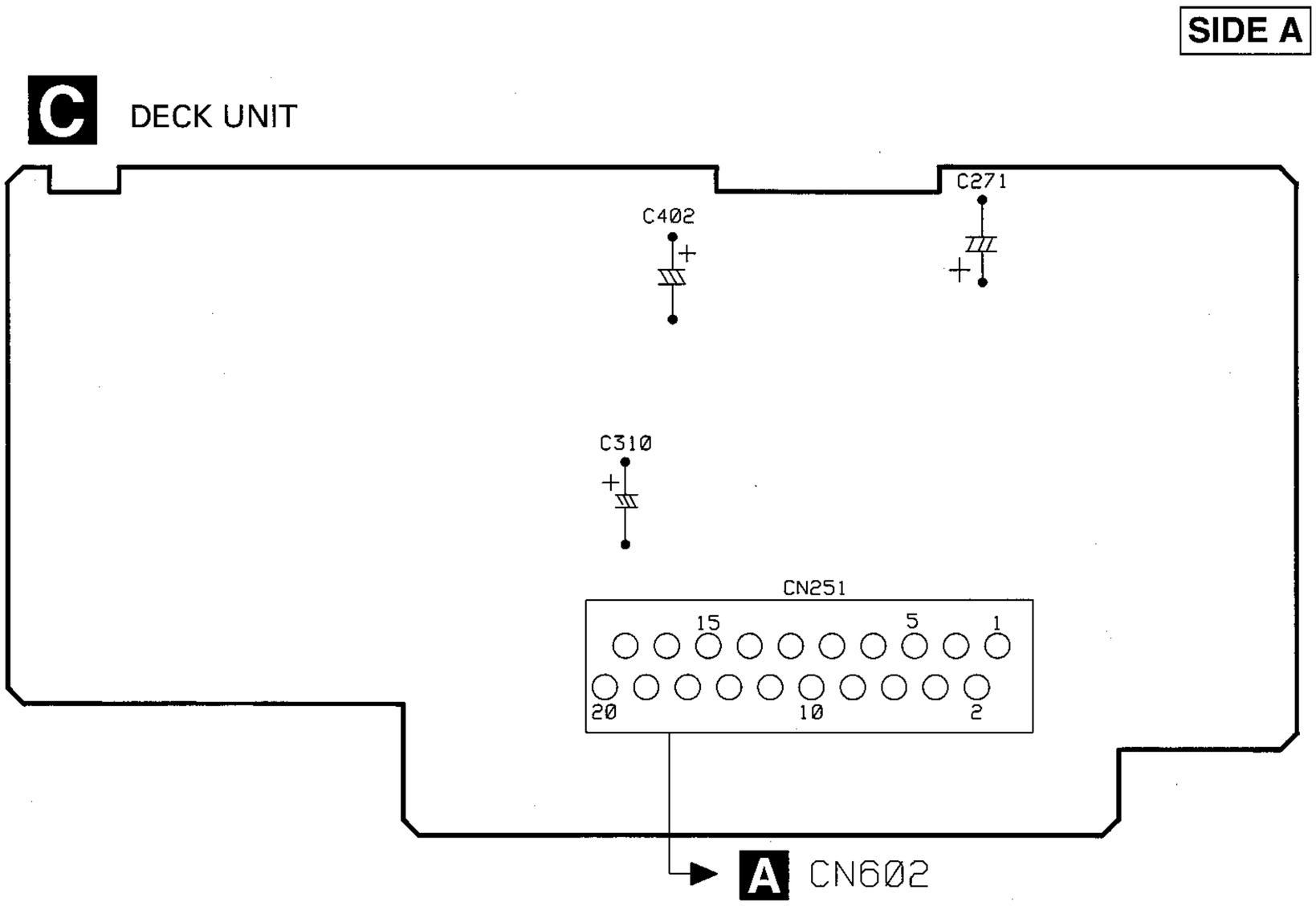


Fig. 16

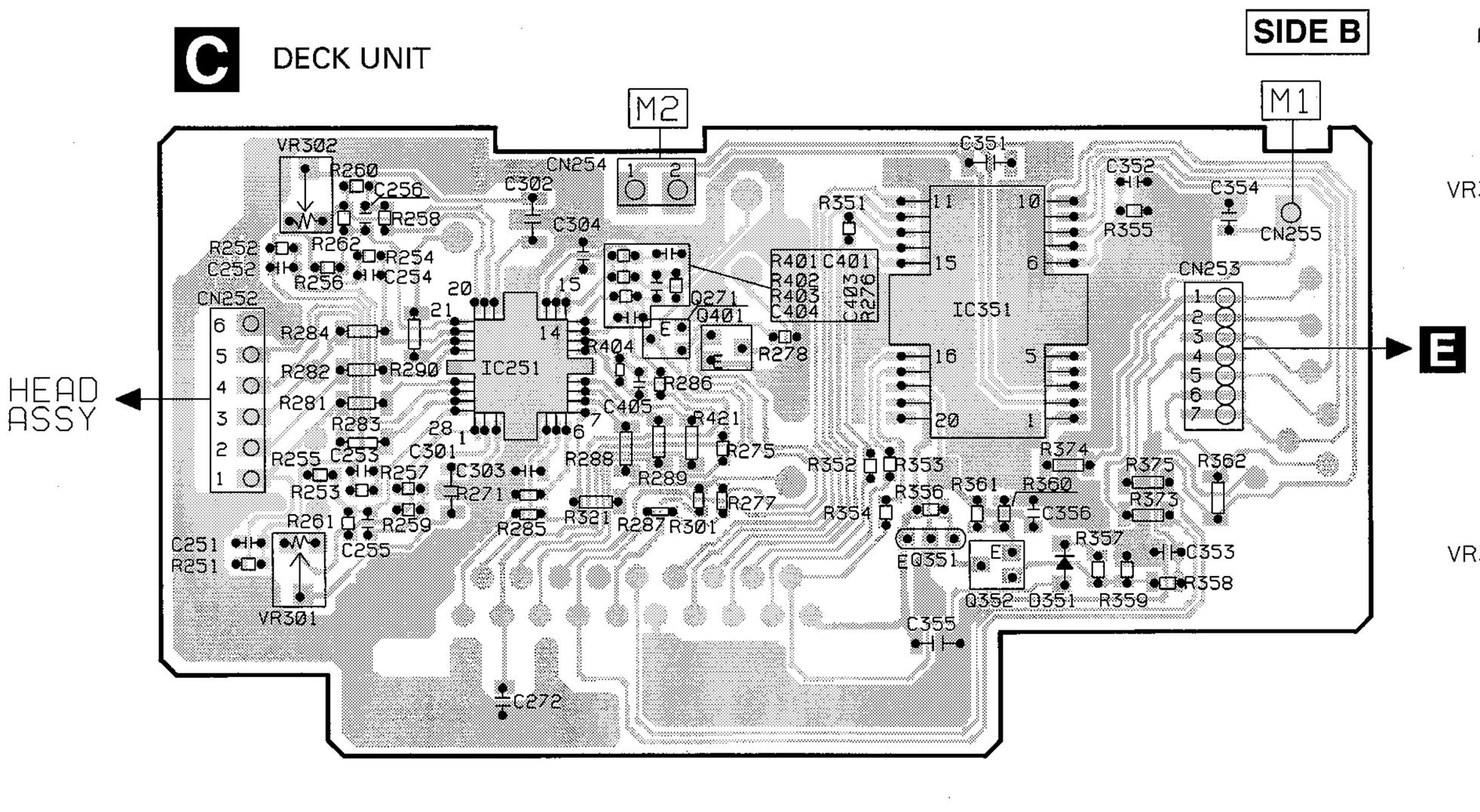


Fig. 17

E PCB UNIT

SIDE A

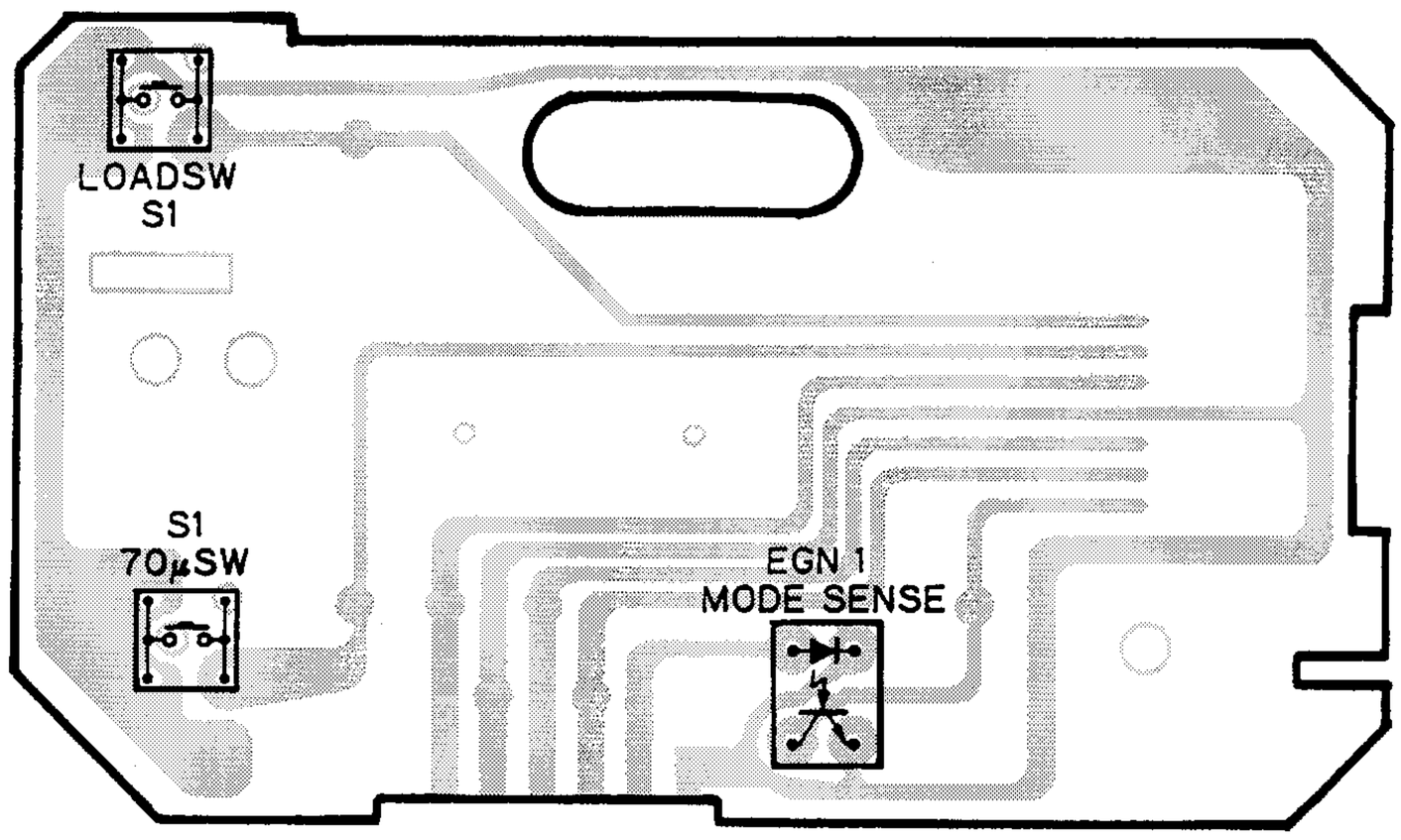
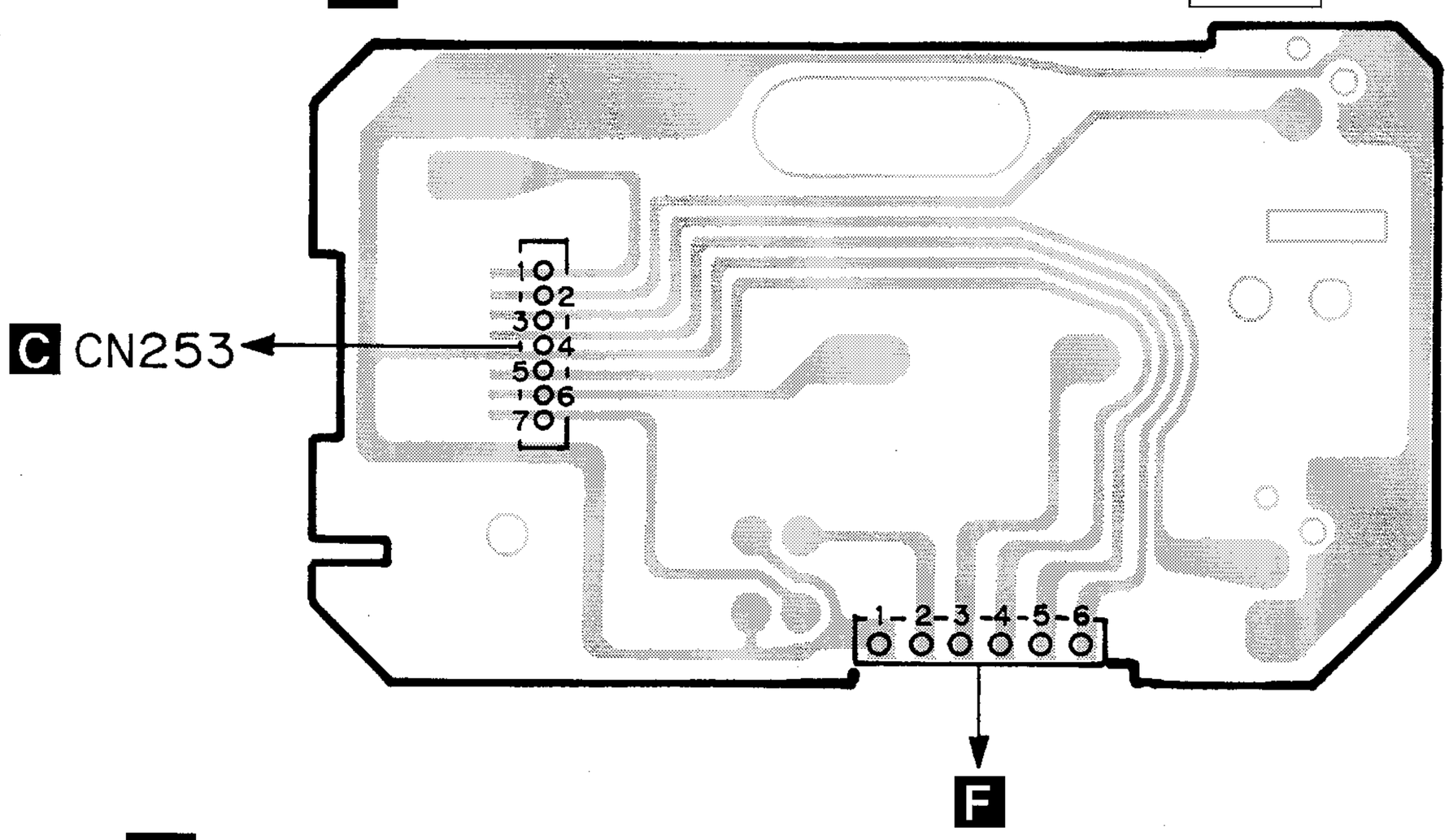


Fig. 18

E PCB UNIT

SIDE B

C CN253



F

Fig. 19

F REEL PCB

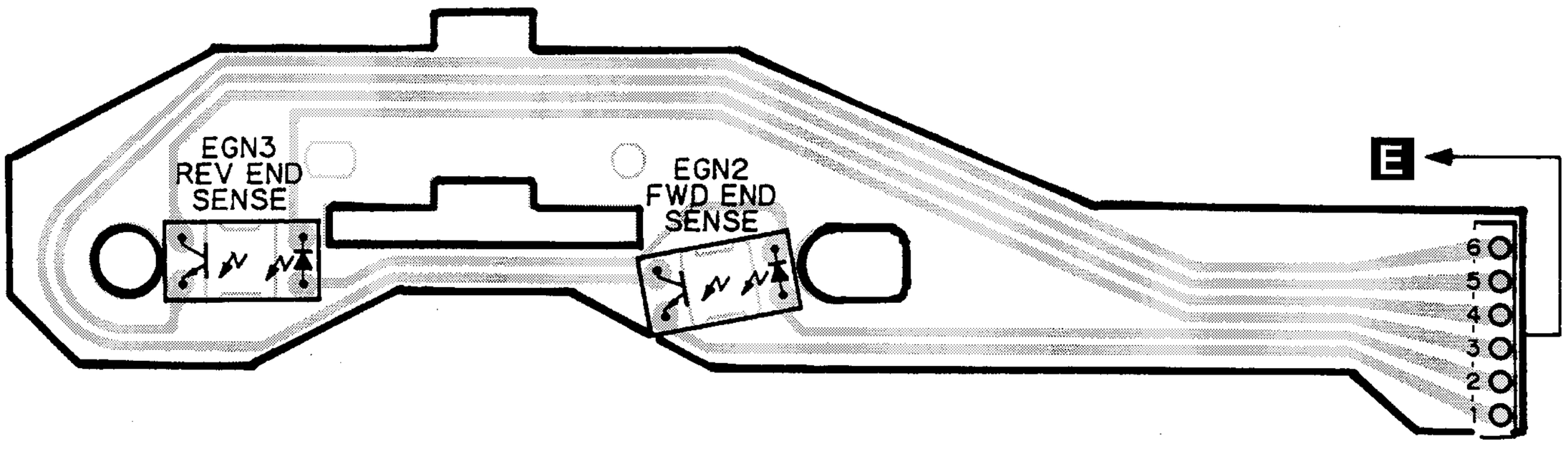


Fig. 20

5. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

  Chip Resistor

  RS1/○S○○○J,RS1/○○S○○○J

  Chip Capacitor (except for CQS.....)

  CKS....., CCS....., CSZS.....

B

Unit Number : CWE1417(KEH-P515/X1M/UC,P5600/X1M/UC)
: CWE1485(KEH-P5650/X1M/ES)
Unit Name : FM/AM Tuner Unit

MISCELLANEOUS

=====Circuit Symbol & No.===		Part Name	Part No.
IC	1	IC	PA4023B
IC	2	IC	PA4024A
Q	1	Transistor	2SC2412KLN
Q	2	Transistor	DTC124EU
Q	3	FET	3SK263
Q	31	Transistor	2SC2412KLN
Q	201	FET	2SK932
Q	202	Transistor	2SC2412KLN
Q	203	Transistor	DTC124EU
D	1	Diode	RD39JS
D	2	Diode	RD39JS
D	4	Diode	1SV250
D	5	Diode	KV1410-F1
D	6	Diode	MA157
D	7	Diode	KV1410-F1
D	8	Diode	KV1410-F1
D	201	Diode	MA157
D	202	Diode	MA157
D	231	Diode	SVC253
L	2	Coil	CTC1108
L	3	Inductor	LCTB2R2K2125
L	4	Coil	CTC1108
L	5	Coil	CTC1107
L	6	Inductor(KEH-P5650/X1M/ES)	LCTBR15K1608
L	51	Ferri-Inductor	LAU150K
L	201	Ferri-Inductor	LAU4R7K
L	202	Ferri-Inductor	LAU330K
L	203	Inductor	CTF1287
L	208	Inductor	LAU121K
L	231	Inductor	LCTA3R3J3225
T	31	Coil	CTE1116
T	51	Coil	CTC1136
CF	51	Ceramic Filter	CTF1290
CF	52	Ceramic Filter	CTF1290
CF	53	Ceramic Filter	CTF1290
CF	232	Ceramic Filter	CTF1348
X	151	Resonator 920.5kHz	CSS1365
X	231	Crystal Resonator 10.26MHz	CSS1111
VR	154	Semi-fixed 150kΩ(B)	CCP1213

RESISTORS

R	1	RS1/16S225J
R	2	RS1/16S225J
R	4	RS1/16S154J
R	5	RS1/16S391J
R	6	RS1/16S223J
R	7	RS1/16S123J
R	8	RS1/16S332J
R	9	RS1/16S473J
R	10	RS1/16S223J
R	11	RS1/16S124J
R	13	RS1/16S563J
R	15	RS1/16S271J
R	16	RS1/16S104J
R	17	RS1/16S332J
R	18	RS1/16S332J
R	31	RS1/16S470J
R	32	RS1/16S822J
R	33	RS1/16S822J
R	34	RS1/16S331J
R	35	RS1/16S331J
R	51	RS1/16S271J
R	52	RS1/16S560J
R	55	RS1/16S102J
R	56	RS1/16S823J
R	61	RS1/16S392J
R	62	RS1/16S273J
R	101	RS1/16S272J
R	102	RS1/16S682J
R	103	RS1/16S333J
R	104	RS1/16S334J
R	105	RS1/16S683J
R	107	RS1/16S222J
R	151	RS1/16S222J
R	152	RS1/16S393J
R	155	RS1/16S273J
R	156	RS1/16S243J
R	157	RS1/16S203J
R	160	RS1/16S222J
R	161	RS1/16S563J
R	162	RS1/16S105J
R	163	RS1/16S223J
R	202	RS1/16S223J
R	203	RS1/16S225J
R	204	RS1/16S103J
R	206	RS1/16S220J
R	207	RS1/16S101J
R	208	RS1/16S102J
R	209	RS1/16S471J
R	214	RS1/16S822J
R	215	RS1/16S822J
R	217	RS1/16S102J
R	231	RS1/16S272J
R	232	RS1/16S473J
R	237	RS1/16S103J
R	238	RS1/16S104J
R	239	RS1/16S104J
R	240	RS1/16S332J
R	241	RS1/16S202J
R	243	RS1/16S183J
R	244	RS1/16S392J
R	247	RS1/16S123J

Circuit Symbol & No.			Part Name	Part No.
CAPACITORS				
C	1			CCSQCH6R0D50
C	2			CCSRCK2R0C50
C	4			CCSRCH820J50
C	6			CCSRCH820J50
C	8			CKSRYB103K25
C	9			CKSQYB104K16
C	10			CCSRCKR50C50
C	11			CEJA1R0M50
C	12			CKSRYB222K50
C	13			CKSRYB222K50
C	14			CCSRCH220J50
C	15			CCSRCH6R0D50
C	16			CCSRCH8R0D50
C	17			CKSRYB222K50
C	18			CKSRYB103K25
C	19			CKSRYB222K50
C	20			CKSRYB222K50
C	21			CEJA100M16
C	22			CCSRTH9R0D50
C	23			CCSRTH120J50
C	24			CCSRCH471J50
C	25			CKSRYB103K25
C	26		(KEH-P515/X1M/UC,P5600/X1M/UC)	CCSRCH101J50
C	31			CKSRYB103K25
C	32			CKSQYB472K50
C	33			CCSRCH5R0C50
C	34			CKSQYB104K16
C	36			CCSRRH201J50
C	51			CKSRYB223K25
C	52			CKSRYB103K25
C	54			CCSRCH470J50
C	55			CKSQYB223K25
C	56			CKSQYB104K16
C	57			CKSRYB472K50
C	58			CEJA330M10
C	59			CKSRYB103K25
C	60			CKSRYB102K50
C	61			CCSRCH270J50
C	62			CKSRYB103K25
C	63			CEJAR22M50
C	101			CEJANP100M10
C	102			CKSRYB182K50
C	103			CKSRYB682K25
C	104			CEJA2R2M50
C	105			CKSRYB103K25
C	106			CCSRCH151J50
C	107			CKSRYB103K25
C	151			CKSRYB472K50
C	152			CKSQYB104K16
C	153			CEJA3R3M50
C	154			CKSQYB104K16
C	157			CEJA3R3M50
C	158			CKSYB474K16
C	159			CEJA220M6R3
C	160			CKSQYB104K16
C	161			CKSQYB104K16
C	162			CEJA3R3M50
C	163			CKSRYB102K50
C	170			CCSRCH100D50
C	201			CCSRCH471J50
C	202			CCSRCH100D50
C	203			CKSRYB332K50
C	204			CKSQYB473K16
C	205			CKSQYB473K16
C	206			CKSQYB104K16
C	207			CCSRCH560J50
C	209			CKSQYB104K16
C	211			CCSRCH101J50
C	212			CEJA470M6R3
C	213			CKSRYB103K25
C	216			CCSRCH101J50
C	217			CEJA1R5M50
C	219			CCSRCH471J50
C	220			CKSRYB103K25
C	230			CKSRYB103K25
C	231			CCSRCH330J50
C	232			CCSRCH150J50
C	233			CKSQYB104K16
C	234			CEJA330M10
C	235			CKSRYB332K50
C	236			CKSQYB473K16
C	237			CCSRCH120J50
C	239			CKSRYB472K50
C	240			CEJAR47M50
C	241			CKSQYB104K16
C	242			CEJAR47M50
C	243			CEJAR33M50
C	244			CKSQYB473K16
C	245			CKSRYB333K16
C	246			CKSQYB473K16
C	250			CCSRCH471J50

A Unit Number : CWM5257(KEH-P515/X1M/UC)
Unit Name : Tuner Amp Unit

MISCELLANEOUS

IC	201	IC		SN761027DL
IC	301	IC		TDA7384A
IC	401	IC		PM2005B
IC	601	IC		PD4748A
IC	602	IC		TPD1018F
IC	603	IC		See Contrast table
IC	604	IC		S-80734AN
IC	751	IC		TA2050S
IC	752	IC		HA12187FP
IC	951	IC		TPD1018F
Q	202	Transistor		IMH3A
Q	203	Transistor		DTC114TS
Q	204	Transistor		DTC114TS
Q	205	Transistor		DTA124ES
Q	206	Transistor		DTA124EK
Q	207	Transistor		DTC143TK
Q	208	Transistor		DTC143TK
Q	301	Transistor		DTC124EK
Q	302	Transistor		2SC1740S
Q	401	Transistor		2SC2412K
Q	402	Transistor		DTC143EK
Q	601	Transistor		2SC2412K
Q	602	Transistor		2SC2412K
Q	604	Transistor		2SA933S
Q	605	Transistor		DTC124EK
Q	606	Transistor		2SC1740S
Q	607	Transistor		See Contrast table
Q	608	Transistor		See Contrast table
Q	609	Transistor		2SA933S
Q	751	Transistor		2SA1037K
Q	752	Transistor		DTC114EK
Q	951	Transistor		2SD2396
Q	952	Transistor		2SD2037
Q	953	Transistor		2SA933S
Q	954	Transistor		DTC114EK

Circuit Symbol & No.	Part Name	Part No.
Q 955	Transistor	2SA1674
Q 956	Transistor	2SA1048
Q 957	Transistor	DTC114TK
Q 958	Transistor	DTC114TK
Q 959	Transistor	2SC2412K
Q 960	Transistor	DTC114TK
Q 961	Transistor	2SB1243
D 301	Diode	1SS270
D 402	Diode	1SS270
D 403	Diode	1SS270
D 601	Diode	HZS7L(C2)
D 602	Diode	HZS7L(A1)
D 603	Diode	1SS270
D 610	Diode	See Contrast table
D 611	Diode	See Contrast table
D 612	Diode	1SR139-400
D 613	Diode	1SR139-400
D 614	LED	BR4361F
D 615	Diode	1SS270
D 616	Diode	1SS270
D 617	Diode	1SS270
D 618	Diode	1SS270
D 619	Diode	1SS270
D 620	Diode	1SS270
D 621	Diode	1SS270
D 622	Diode	HZS7L(A1)
D 951	Diode	1SR139-400
D 952	Diode	1SR139-400
D 953	Diode	1SR139-400
D 954	Diode	1SR139-400
D 955	Diode	1SR139-400
D 956	Diode	HZS6L(B2)
D 957	Diode	HZS9L(B3)
D 958	Diode	1SS270
D 959	Diode	HZS9L(A2)
L 401	Ferri-Inductor	LAU2R2K
L 403	Ferri-Inductor	LAU2R2K
L 601	Ferri-Inductor	LAU2R2K
L 602	Ferri-Inductor	LAU2R2K
L 603	Ferri-Inductor	LAU2R2K
L 751	Ferri-Inductor	LAU2R2K
L 951	600H	CTH1168
X 401	Crystal Resonator 7.200MHz	CSS1379
X 631	Ceramic Resonator 4.194MHz	CSS1047
	FM/AM Tuner Unit	See Contrast table

RESISTORS

R 201	RS1/10S821J
R 202	RS1/10S821J
R 203	RS1/10S104J
R 204	RS1/10S104J
R 205	RS1/8S333J
R 206	RS1/10S333J
R 207	RS1/10S152J
R 208	RS1/10S152J
R 209	RS1/10S272J
R 210	RS1/10S272J
R 211	RS1/10S151J
R 212	RS1/10S151J
R 213	RS1/10S221J
R 214	RS1/10S221J
R 217	RS1/10S103J
R 218	RS1/10S102J
R 221	RS1/10S821J
R 222	RS1/10S821J
R 223	RS1/10S473J
R 224	RS1/10S473J
R 225	RS1/10S473J
R 226	RS1/10S473J
R 227	RS1/10S0R0J
R 229	RS1/10S392J
R 230	RS1/10S392J
R 301	RD1/4PU103J
R 302	RS1/10S221J
R 303	RS1/10S153J
R 304	RS1/10S103J
R 305	RS1/10S152J
R 306	RS1/10S101J
R 307	RS1/10S562J
R 308	RS1/8S223J
R 401	RS1/10S162J
R 402	RS1/10S162J
R 403	RS1/8S102J
R 404	RS1/10S222J
R 405	RS1/10S222J
R 406	See Contrast table
R 407	See Contrast table
R 408	RS1/10S562J
R 409	RS1/10S222J
R 410	RS1/10S102J
R 411	RS1/10S682J
R 412	RS1/10S681J
R 413	RS1/10S472J
R 414	RS1/10S682J
R 415	RS1/10S472J
R 416	RS1/10S561J
R 417	RS1/10S103J
R 418	RS1/10S152J
R 419	RS1/8S222J
R 420	RS1/10S392J
R 421	RS1/10S272J
R 422	RS1/10S392J
R 423	RS1/10S473J
R 424	RS1/10S473J
R 425	RS1/10S472J
R 426	RS1/8S473J
R 427	RD1/4PU102J
R 428	RD1/4PU102J
R 429	RD1/4PU102J
R 430	RD1/4PU102J
R 431	RS1/10S472J
R 433	RS1/10S104J
R 434	RD1/4PU222J
R 435	RS1/10S103J
R 436	RS1/10S393J
R 437	RS1/10S0R0J
R 438	RS1/10S0R0J
R 439	RD1/4PU0R0J
R 440	RS1/8S0R0J
R 448	RS1/10S102J
R 449	RS1/8S0R0J
R 450	RS1/10S680J
R 601	RS1/10S223J
R 602	RS1/10S473J
R 603	RS1/10S473J
R 604	RS1/10S223J
R 605	RS1/10S473J
R 606	RS1/10S473J
R 608	RD1/4PU0R0J
R 610	RD1/4PU0R0J
R 611	RS1/10S751J
R 612	RS1/10S103J

Circuit Symbol & No.	Part Name	Part No.
R 613		RS1/10S223J
R 614		RS1/10S223J
R 615		RS1/10S223J
R 616		RS1/10S272J
R 617		RS1/10S473J
R 618		See Contrast table
R 619		See Contrast table
R 620		See Contrast table
R 621		See Contrast table
R 622		See Contrast table
R 623		See Contrast table
R 624		See Contrast table
R 625		See Contrast table
R 626		See Contrast table
R 627		RD1/4PU103J
R 628		See Contrast table
R 629		RS1/10S0R0J
R 630		RS1/10S0R0J
R 631		RS1/10S473J
R 633		RS1/10S473J
R 634		See Contrast table
R 635		See Contrast table
R 637		RD1/4PU102J
R 638		RS1/10S124J
R 639		RD1/4PU222J
R 640		RS1/10S223J
R 641		RD1/4PU222J
R 642		RS1/10S103J
R 643		RS1/8S222J
R 644		RD1/4PU222J
R 645		RD1/4PU103J
R 646		RS1/8S222J
R 647		RS1/8S222J
R 648		RD1/4PU222J
R 649		RS1/10S222J
R 650		RD1/4PU222J
R 651		RD1/4PU222J
R 652		RD1/4PU222J
R 653		RS1/10S222J
R 654		RS1/10S473J
R 655		RS1/10S473J
R 656		RS1/10S473J
R 657		RS1/10S473J
R 658		RS1/10S103J
R 659		RS1/10S392J
R 660		RS1/10S472J
R 661		RD1/4PU472J
R 662		RS1/10S222J
R 663		RS1/10S222J
R 664		RD1/4PU102J
R 665		RD1/4PU102J
R 667		RS1/10S102J
R 668		RS1/8S0R0J
R 670		RS1/8S0R0J
R 695		RS1/10S472J
R 717		RS1/10S473J
R 719		RS1/10S473J
R 751		RS1/10S181J
R 752		RS1/10S181J
R 753		RS1/10S223J
R 754		RS1/10S223J
R 755		RS1/10S102J
R 756		RS1/10S102J
R 757		RS1/10S102J
R 758		RS1/10S102J
R 759		RS1/10S473J
R 760		RS1/10S473J
R 761		RS1/10S102J
R 762		RS1/10S101J
R 763		RS1/10S101J
R 764		RS1/10S620J
R 765		RS1/10S223J
R 766		RS1/10S472J
R 767		RS1/10S222J
R 768		RS1/10S0R0J
R 951		RS1/10S473J
R 952		RD1/4PU102J
R 953		RD1/4PU471J
R 954		RD1/4PU101J
R 955		RS1/10S472J
R 956		RS1/10S473J
R 957		RS1/10S102J
R 958		RS1/10S473J
R 959		RS1/10S102J
R 960		RS1/8S103J
R 961		RS1/10S1R0J
R 962		RS1/10S103J
R 963		RS1/10S223J
R 964		RS1/10S152J
R 965		RS1/10S0R0J
R 967		RS1/10S473J
R 968		RS1/10S102J
R 969		See Contrast table
R 970		RD1/4PU152J

CAPACITORS

Circuit Symbol & No.	Part Name	Part No.
C 201		CEJA2R2M50
C 202		CEJA2R2M50
C 203		CEJA1R0M50
C 204		CEJA1R0M50
C 205		CEJA4R7M35
C 206		CEJA4R7M35
C 207		CEJA100M16
C 208		CEJA100M16
C 209		CKSQYB822K50
C 210		CKSQYB822K50
C 211		CEJA1R0M50
C 212		CEJA1R0M50
C 213		CKSQYB183K25
C 214		CKSQYB183K25
C 215		CKSQYB102K50
C 216		CKSQYB102K50
C 217		CEJA2R2M50
C 218		CEJA2R2M50
C 219		CKSQYB333K25
C 220		CKSQYB333K25
C 221		CEJA220M10
C 222		CEJA220M10
C 223		CKSQYF104Z25
C 225		CKSQYB473K16
C 227		CEJA2R2M50
C 228		CEJA2R2M50
C 229		CEJA2R2M50
C 230		CEJA2R2M50
C 231		CEJA2R2M50
C 232		CEJA2R2M50
C 236		CKSQYB473K16
C 309	3300µF/16V	CCH1018
C 310		CKSQYB104K16
C 311		CKSYB224K16
C 312		CKSQYB224K16

Circuit Symbol & No.			Part Name	Part No.
C	313			CKSQYB224K16
C	314			CKSQYB224K16
C	315			CEJA100M16
C	316			CKSQYB224K16
C	317			CEJA1R0M50
C	318			CEJA330M10
C	401			CKSQYB223K25
C	402			CKSYB273K25
C	406			CCSQSL101J50
C	407			CKSQYB102K50
C	408			CEJA220M16
C	409			CKSQYB103K25
C	410			CEJA220M6R3
C	411			CEJA220M16
C	412			CKSQYB103K25
C	413			CKSQYB103K25
C	414	4.7µF/16V		CCH1250
C	415			CKSQYB103K25
C	416			CKLSR473K16
C	417			CKSYB332K50
C	418			CKSQYB103K25
C	419			See Contrast table
C	420			CKSQYB103K25
C	421			CKSQYB103K25
C	422			CEJA220M6R3
C	423			CKSQYB102K50
C	424	4.7µF/16V		CCH1250
C	425			CKSQYB103K25
C	427			CKSYB103K50
C	428			CKSQYB103K25
C	429			CCSQCH150J50
C	430			CCSQCH150J50
C	431			CCSQSL101J50
C	432			CKSQYB103K25
C	439			CKSQYB473K16
C	440			CKSQYB473K16
C	442			CKSQYB102K50
C	601			CKSQYB103K25
C	602			CKSQYB103K25
C	603			See Contrast table
C	604			See Contrast table
C	605			See Contrast table
C	606			CEJA100M16
C	612			CEAL2R2M50
C	613			CKSYB102K50
C	614			CCSQSL101J50
C	615			CEJA4R7M35
C	616			CKSQYB103K25
C	618			CKSQYB223K25
C	622			CEJA220M10
C	624			CKSQYB102K50
C	751			CEJA1R0M50
C	752			CEJA1R0M50
C	753			CEJA1R0M50
C	754			CEJA1R0M50
C	755			CEJA100M16
C	756			CEJA100M16
C	757			CKSQYB102K50
C	758			CKSQYB104K16
C	951	470µF/16V		CCH1183
C	952			CEJA470M10
C	953			CEAS101M10
C	954			CKSQYB103K25
C	956			CKSQYB103K25
C	957			CKSQYB103K25
C	958			CEAS101M10

Circuit Symbol & No.			Part Name	Part No.
D	Unit Number : CWM5270			
	Unit Name : Key Board Unit			
MISCELLANEOUS				
IC	901		IC	PD6195A
IC	902		IC	SBX8035-H
D	901		Chip Diode	MA151WK
D	902		Diode	MA151WA
D	903		LED	QLMP-6577
L	901		Ferri-Inductor	LAU101K
X	901		Ceramic Resonator 4.97MHz	CSS1312
S	901		Switch	CSG1081
S	902		Switch	CSG1081
S	903		Push Switch	CSG1093
S	904		Push Switch	CSG1093
S	905		Push Switch	CSG1093
S	906		Push Switch	CSG1093
S	907		Push Switch	CSG1093
S	908		Push Switch	CSG1093
S	909		Push Switch	CSG1093
S	910		Push Switch	CSG1093
S	911		Push Switch	CSG1093
S	912		Switch	CSG1081
S	913		Push Switch	CSG1093
S	914		Push Switch	CSG1093
S	915		Switch	CSG1081
S	916		Push Switch	CSG1093
S	917		Switch	CSG1081
S	918		Switch	CSG1081
S	919		Push Switch	CSG1093
S	920		Push Switch	CSG1093
S	921		Push Switch	CSG1093
IL	901		Lamp 14V 40mA	CEL1481
IL	902		Lamp 14V 40mA	CEL1481
IL	903		Lamp 14V 40mA	CEL1507
IL	904		Lamp 14V 40mA	CEL1507
IL	905		Lamp 14V 40mA	CEL1507
LCD	901		LCD	CAW1410
RESISTORS				
R	901			RS1/10S222J
R	902			RS1/10S222J
R	903			RS1/10S472J
R	904			RS1/10S121J
R	905			RS1/10S470J
R	906			RS1/10S470J
R	907			RS1/10S2R2J
R	908			RS1/10S473J
R	909			RS1/10S473J
R	910			RS1/10S473J
R	911			RS1/10S473J
R	912			RS1/10S473J
R	913			RS1/10S473J
R	915			RS1/4S821J
CAPACITORS				
C	901			CEAL100M16
C	902			CKSQYF104Z25
C	903			CEAL100M16

=====Circuit Symbol & No.	===	Part Name	Part No.

C Unit Number : EWM1011(KEH-P515/X1M/UC)
Unit Number : EWM1010(KEH-P5600/X1M/UC,P5650/X1M/ES)
Unit Name : Deck Unit

MISCELLANEOUS

IC	251	IC	HA12192F
IC	351	IC	PA2020A
Q	271	Transistor	2SC4116
Q	351	Transistor	2SB1260
Q	352	Transistor	2SC4102
Q	401	Transistor	DTC114EU
D	351	Diode	1SS355
VR	301	Semi-fixed 33kΩ(B)	CCP1280
VR	302	Semi-fixed 33kΩ(B)	CCP1280

RESISTORS

R	251	(KEH-P515/X1M/UC)	RS1/16S333J
R	252	(KEH-P515/X1M/UC)	RS1/16S333J
R	253	(KEH-P515/X1M/UC)	RS1/16S333J
R	254	(KEH-P515/X1M/UC)	RS1/16S333J
R	255		RS1/16S181J
R	256		RS1/16S181J
R	257		RS1/16S183J
R	258		RS1/16S183J
R	259		RS1/16S133J
R	260		RS1/16S133J
R	261		RS1/16S274J
R	262		RS1/16S274J
R	271		RS1/16S183J
R	275		RS1/16S473J
R	276		RS1/16S104J
R	277		RS1/16S224J
R	278		RS1/16S104J
R	281		RS1/8S0R0J
R	282		RS1/8S0R0J
R	283		RS1/8S0R0J
R	284		RS1/8S0R0J
R	285		RS1/16S0R0J
R	286		RS1/16S0R0J
R	287		RS1/16S0R0J
R	288		RS1/8S0R0J
R	289		RS1/8S0R0J
R	290		RS1/8S0R0J
R	301		RS1/16S0R0J
R	321		RS1/8S0R0J
R	351		RS1/16S102J
R	352		RS1/16S102J
R	353		RS1/16S102J
R	354		RS1/16S102J
R	355		RS1/10S274J
R	356		RS1/10S202J
R	357		RS1/10S472J
R	358		RS1/10S103J
R	359		RS1/10S103J
R	360		RS1/10S102J
R	361		RS1/10S622J
R	362		RS1/8S181J
R	373		RS1/8S0R0J
R	374		RS1/8S0R0J
R	375		RS1/8S0R0J
R	401		RS1/16S123J
R	402		RS1/16S332J
R	403		RS1/16S911J
R	404		RS1/16S274J
R	421		RS1/8S0R0J

=====Circuit Symbol & No.	===	Part Name	Part No.

CAPACITORS

C	251	(KEH-P515/X1M/UC)	CKSRYB331K50
		(KEH-P5600/X1M/UC,P5650/X1M/ES)	CKSRYB391K50
C	252	(KEH-P515/X1M/UC)	CKSRYB331K50
		(KEH-P5600/X1M/UC,P5650/X1M/ES)	CKSRYB391K50
C	253	(KEH-P515/X1M/UC)	CKSRYB331K50
		(KEH-P5600/X1M/UC,P5650/X1M/ES)	CKSRYB391K50
C	254	(KEH-P515/X1M/UC)	CKSRYB331K50
		(KEH-P5600/X1M/UC,P5650/X1M/ES)	CKSRYB391K50
C	255		CKSRYB103K50
C	256		CKSRYB103K50
C	271		CEJA1R0M50
C	272		CKSQYB104K16
C	301		CKSYB474K16
C	302		CKSYB474K16
C	303		CKSQYB104K16
C	304		CKSQYB104K16
C	351		CKSYB224K25
C	352		CKSQYB392K50
C	353		CKSQYB103K50
C	354		CKSQYB473K50
C	355		CKSYB104K50
C	356		CKSQYB103K50
C	401		CKSRYB472K50
C	402		CEJA1R0M50
C	403		CKSRYB223K25
C	404		CKSRYB103K50
C	405		CKSRYB333K16

E Unit Number :
Unit Name : PCB Unit

S	1	Switch (Load)	ESG1004
S	2	Switch (70μS)	ESG1004
EGN	1	Photo-Interrupter	EGN1005

F Unit Number :
Unit Name : Reel PCB

EGN	2	Photo-Interrupter	EGN1006
EGN	3	Photo-Interrupter	EGN1006

Miscellaneous Parts List

M	1	Motor Unit (Main)	EXA1491
M	2	Motor Unit (Sub)	EXA1485
HD	1	Head Assy(KEH-P515/X1M/UC)	EXA1508
HD	1	Head Assy (KEH-P5600/X1M/UC,P5650/X1M/ES)	EXA1506

CONTRAST TABLE of TUNER AMP UNIT

KEH-P515/X1M/UC,KEH-P5600/X1M/UC and KEH-P5650/X1M/ES have the same construction except for the following:

Symbol & Description		Part No.		
		KEH-P515/X1M/UC	KEH-P5600/X1M/UC	KEH-P5650/X1M/ES
Tuner Amp Unit		CWM5257	CWM5258	CWM5262
IC 603	IC	TPD1018F	Not used	Not used
D 610,611	Diode	1SR139-400	Not used	Not used
Q 607,608	Transistor	2SC2412K	Not used	Not used
R 406		Not used	Not used	RD1/4PU182J
R 407		RS1/10S0R0J	RS1/10S0R0J	Not used
R 618,619		RD1/4PU102J	Not used	Not used
R 620		RS1/10S272J	Not used	Not used
R 621		RS1/10S223J	Not used	Not used
R 622,623,626		RS1/10S473J	Not used	Not used
R 624		RS1/10S124J	Not used	Not used
R 625		RS1/10S123J	Not used	Not used
R 628		RD1/4PU103J	Not used	Not used
R 634		Not used	RD1/4PU473J	RD1/4PU153J
R 635		RS1/10S473J	RS1/10S153J	RS1/10S473J
R 969		RS1/8S0R0J	Not used	Not used
C 419		Not used	Not used	CKSQYB103K25
C 603,604,605		CKSQYB103K25	Not used	Not used
FM/AM Tuner Unit		CWE1417	CWE1417	CWE1485

6. ADJUSTMENT

● Connection Diagram

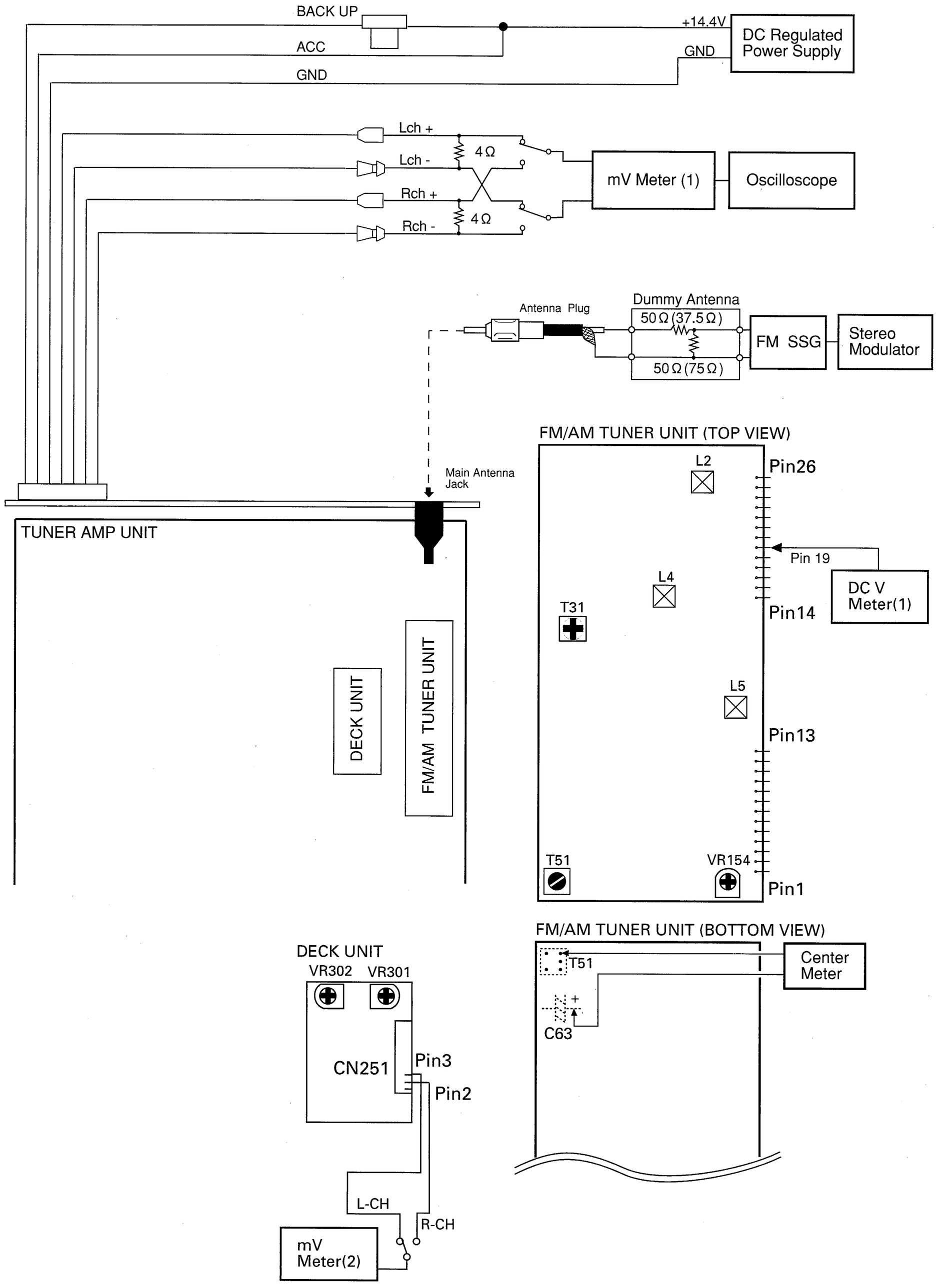


Fig. 21

Modulation M:MONO MOD., 400Hz 30%(22.5kHz Dev.) or 400Hz 100%(75kHz Dev.)
S:STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)

NOTE:Before proceeding to further adjustments after switching power ON, let the tuner run for ten minutes to allow the circuits to stabilize.

FM ADJUSTMENT(UC MODEL)

	No.	FM SSG		Displayed	Adjustment	Adjustment Method
		Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
TUN Volt	1	•••••	•••••	107.9	L5	DC V Meter(1) : 6V
IF	2	98.1 M	60	98.1	T51	Center Meter : 0
ANT Coil	3	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	4	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
IFT	5	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	6	98.1 S	40	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

FM ADJUSTMENT(ES MODEL)

	No.	FM SSG		Displayed	Adjustment	Adjustment Method
		Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
TUN Volt	1	•••••	•••••	108.0	L5	DC V Meter(1) : 6V
IF	2	98.1 M	60	98.1	T51	Center Meter : 0
ANT Coil	3	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	4	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
IFT	5	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	6	98.1 S	40	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

DOLBY B NR ADJUSTMENT

No.	Test Tape	Adjustment Point	Adjustment Method (Switch Position)
1	NCT-150 (400Hz,200nwb/m)	VR301(Lch),VR302(Rch)	mV Meter(2) : –8.24dBs±1.0dB (DOLBY NR Switch : OFF)

● **For Repair of the Detach Grille Assy, Use the Extension-Cord Tool GGD1056.**

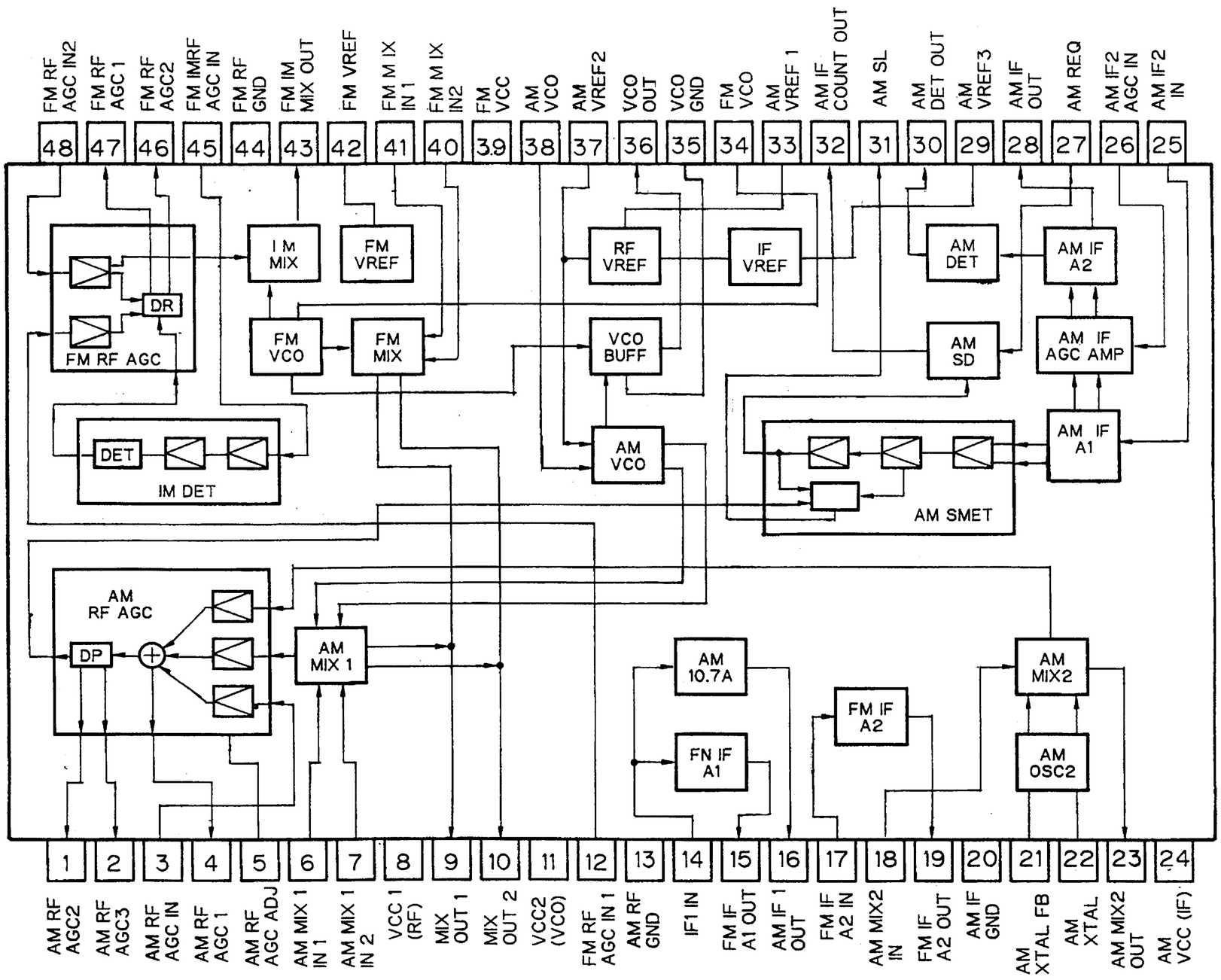
● **For Repair of the Cassette Mechanism Module, Use the Extension-Cord Tool GGD1121.**

7. GENERAL INFORMATION

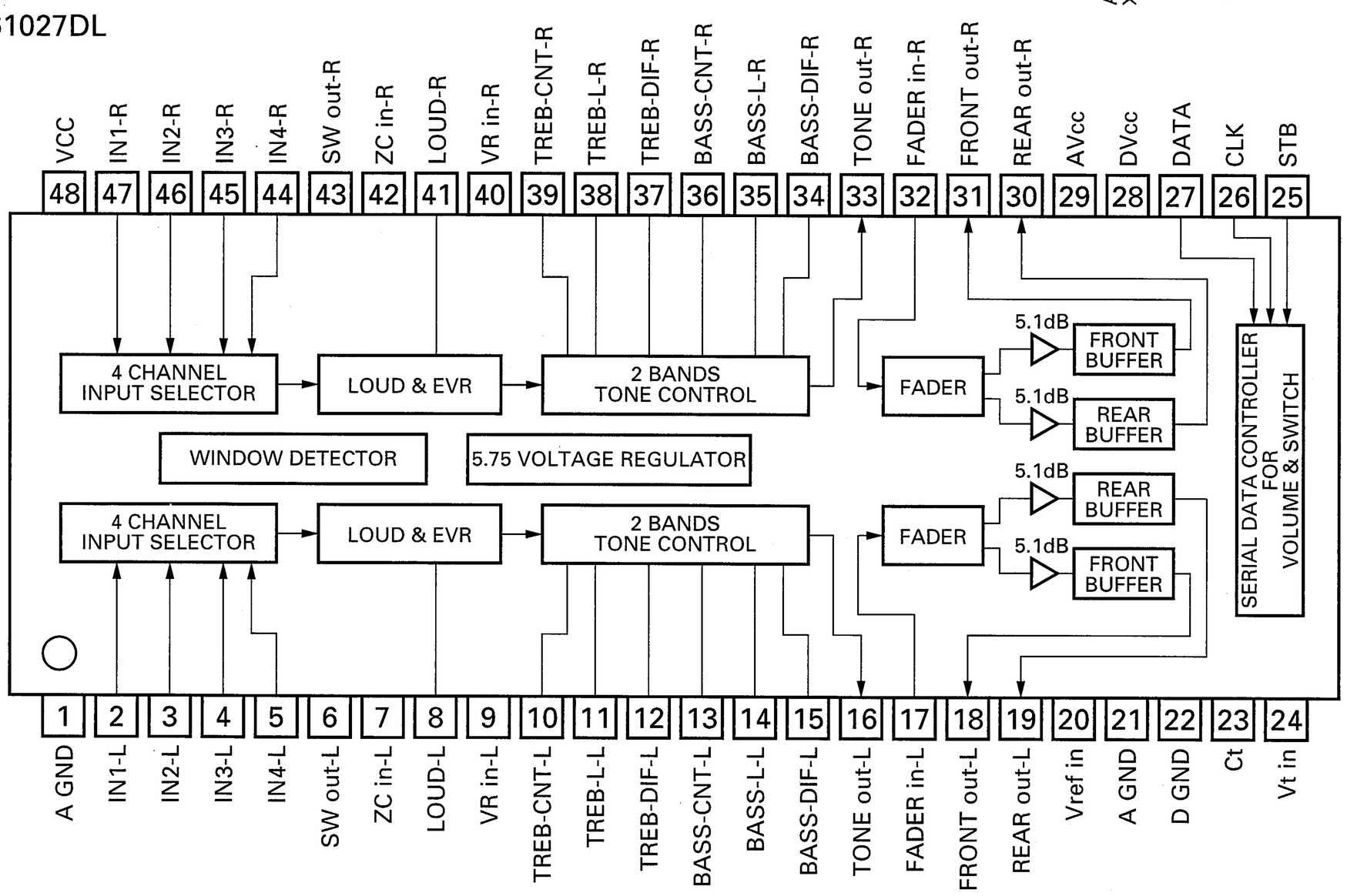
7.1 PARTS

7.1.1 IC

PA4023B

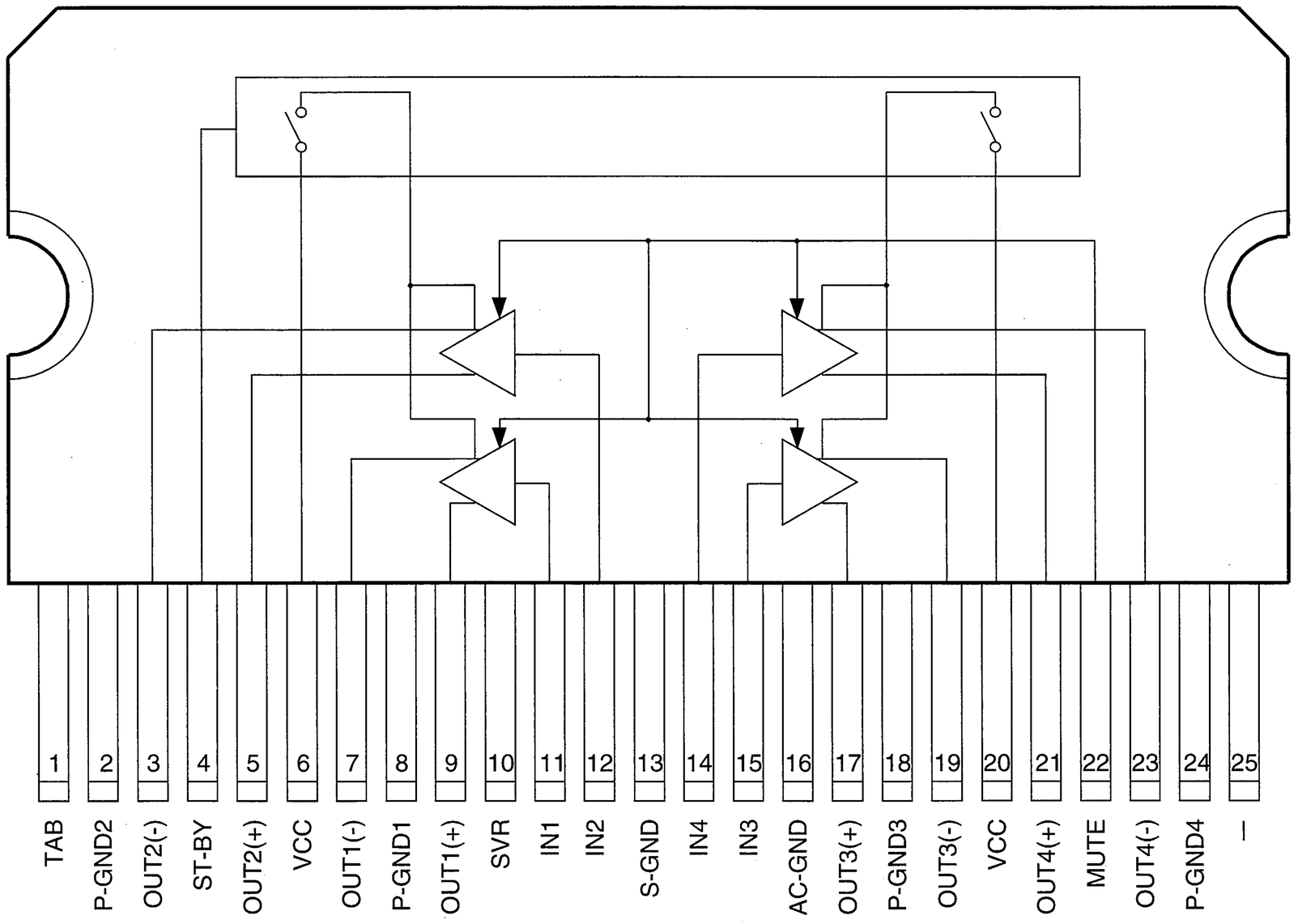


*SN761027DL

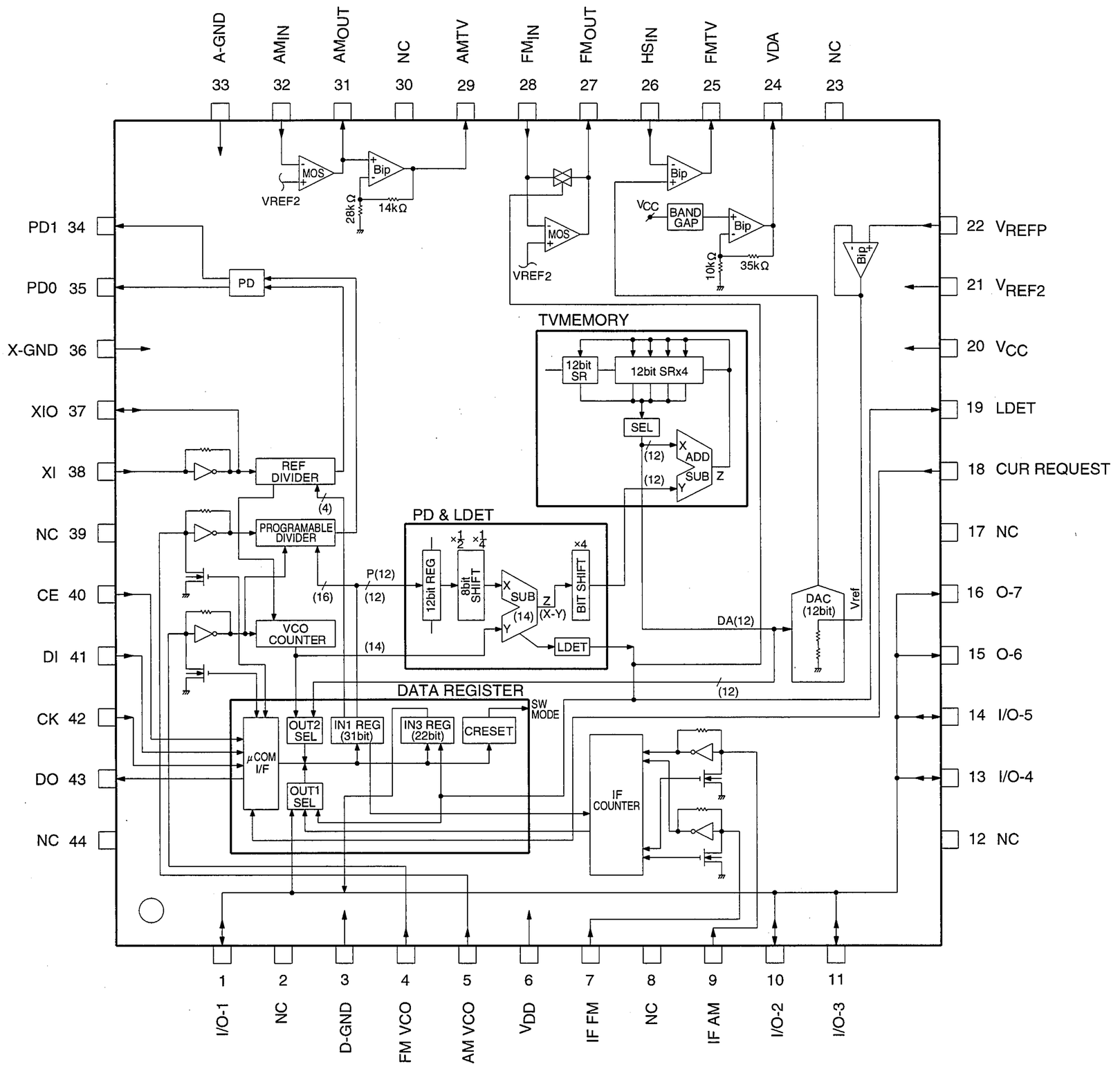


IC's marked by are MOS type.*
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

TDA7384A



PM2005B

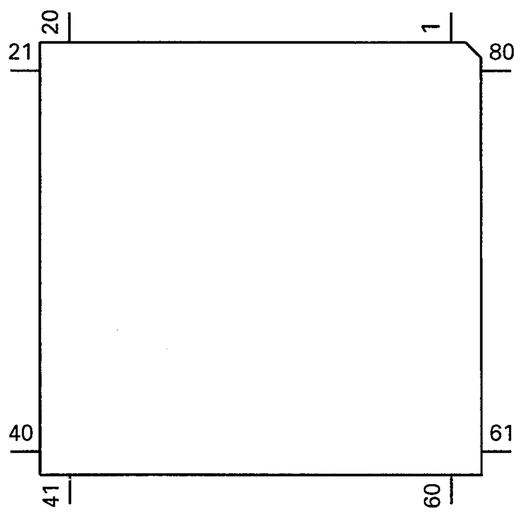


● Pin Functions (PD4748A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	ASENB0	O	C	ASENB output
2	NC			Not used
3	ADPW	O	C	Control output for analog input reference power
4	AVSS			A/D GND
5	FIEOUT	O	C	LPF switch
6	$\overline{ST}$	I		FM stereo input
7	AVREF1			(D/A converter standard voltage)
8	KYDT	I		Key data input
9	DPDT	O	C	Key data output
10	$\overline{SWVDD}$	O	C	Grille power supply control output
11	TUNPD1	I		PLL IC data input
12	TUNPD0	O	C	PLL IC data output
13	TUNPCK	O	C	PLL IC clock
14	TUNPCE	O	C	PLL IC chip enable
15,16	NC			Not used
17	TX	O	C	IP BUS data output
18,19	NC			Not used
20	DRELAY	O	C	External relay output
21	NC			Not used
22	VST	O	C	Strobe pulse output for electronic volume
23	VCK	O	C	Clock output for electronic volume
24	VDT	O	C	Data output for electronic volume
25	STCUT	O	C	Starter cut off output
26	DRSYS	O	C	Door system select output
27	DRSENS	I		Door open/close sense input
28	ILPW	O	C	Illumination power
29	FM	O	C	FM power control output
30	AM	O	C	AM power control output
31	NR	O	C	Cassette mechanism noise reduction output
32	CM	O	C	Cassette mechanism capstan motor control output
33	VSS			GND
34	SC2	O	C	Cassette mechanism sub motor control output
35	SC1	O	C	Cassette mechanism sub motor control output
36	MSIN	I		Cassette mechanism MS sense input
37	$\overline{DRLOCK}$	I		Door lcock
38	$\overline{MTL}$	I		Cassette mechanism tape select input
39	$\overline{DLED}$	O	N	Alarm LED output
40	$\overline{N}$/R	O	C	Normal reverse input
41	PLAY	O	C	MS gain select output
42	$\overline{LOADSW}$	I		Tape loading input
43	POS	I		Cassette mechanism position sense input
44	RES	I		Cassette mechanism reverse end sense input
45	PEE	O	C	Beep tone output
46	NES	I		Cassette mechanism forward end sense input
47	NC			Not used
48	STBY	O	C	Stand-by output terminal
49-52	NC			Not used
53	SD	I		SD input
54	$\overline{MUTE}$	O	C	System mute output
55	SYSPW	O	C	System power supply control output
56-59	NC			Not used
60	$\overline{RESET}$	I		Reset input
61	RX	I		IP BUS input
62	NC			Not used
63	$\overline{DSENS}$	I		Grille detach sense
64	MOSENS	I		Motion input
65	$\overline{ASENS}$	I		ACC power sense input

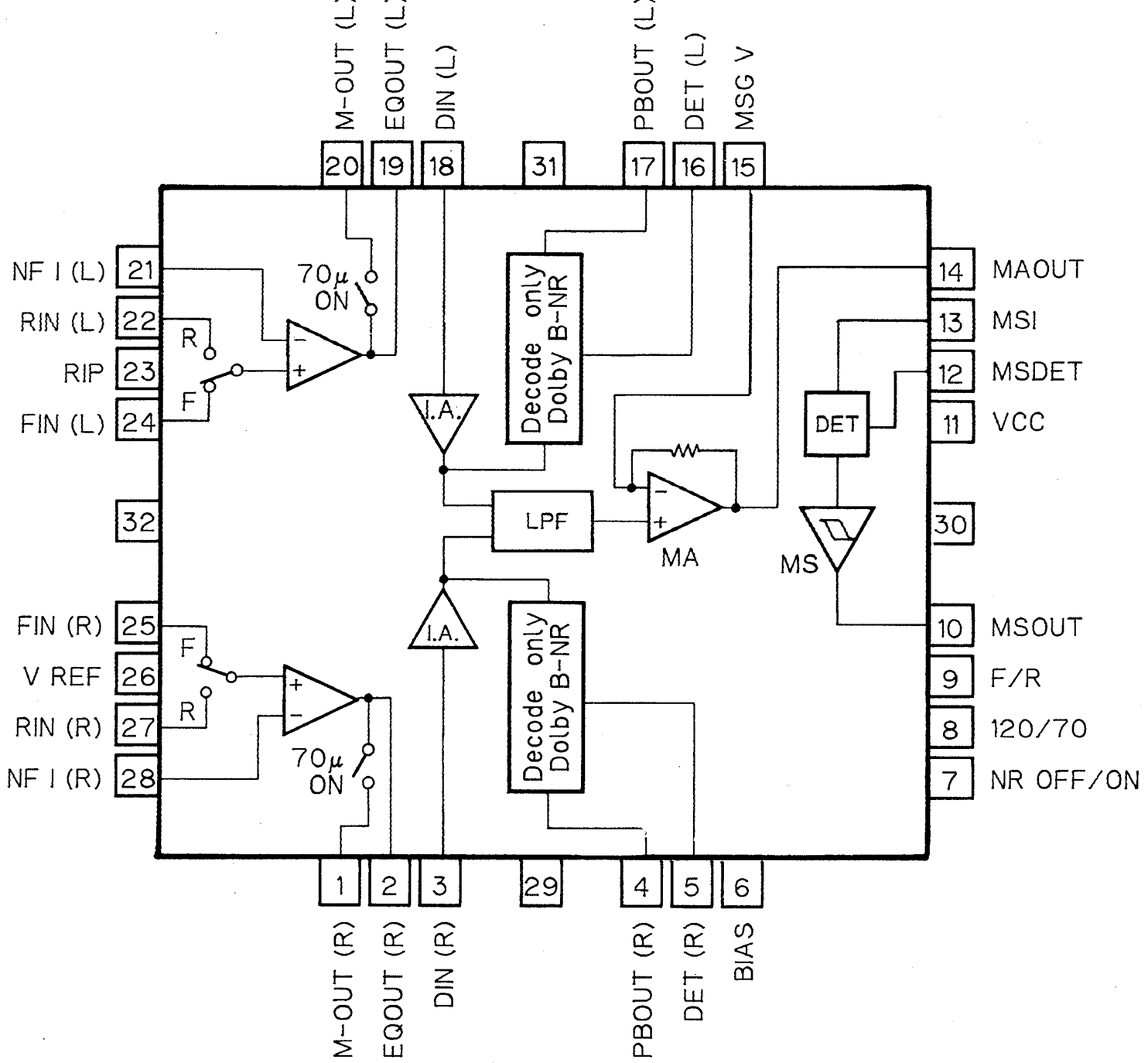
Pin No.	Pin Name	I/O	Format	Function and Operation
66	$\overline{\text{BSENS}}$	I		Back up power sense input
67	CLKIN	I		Clock input
68	VDD			Power supply
69	X2			Crystal oscillator connection pin
70	X1			Crystal oscillator connection pin
71	IC			GND
72	NC			Not used
73	TESTIN	I		Test program mode input
74	AVDD			Positive power supply terminal for analog circuit
75	AVREF0			GND
76	SL	I		SD level input from tuner
77	MODEL0	I		Model select input
78	MODEL1	I		Model select input
79	TELIN	I		TEL mute signal input
80	NC			Not used

*PD4748A



Format	Meaning
C	C MOS
N	N channel open drain

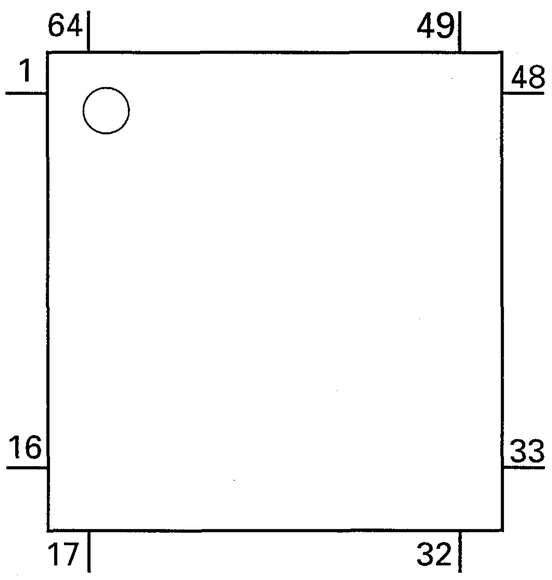
HA12192F



● Pin Functions (PD6195A)

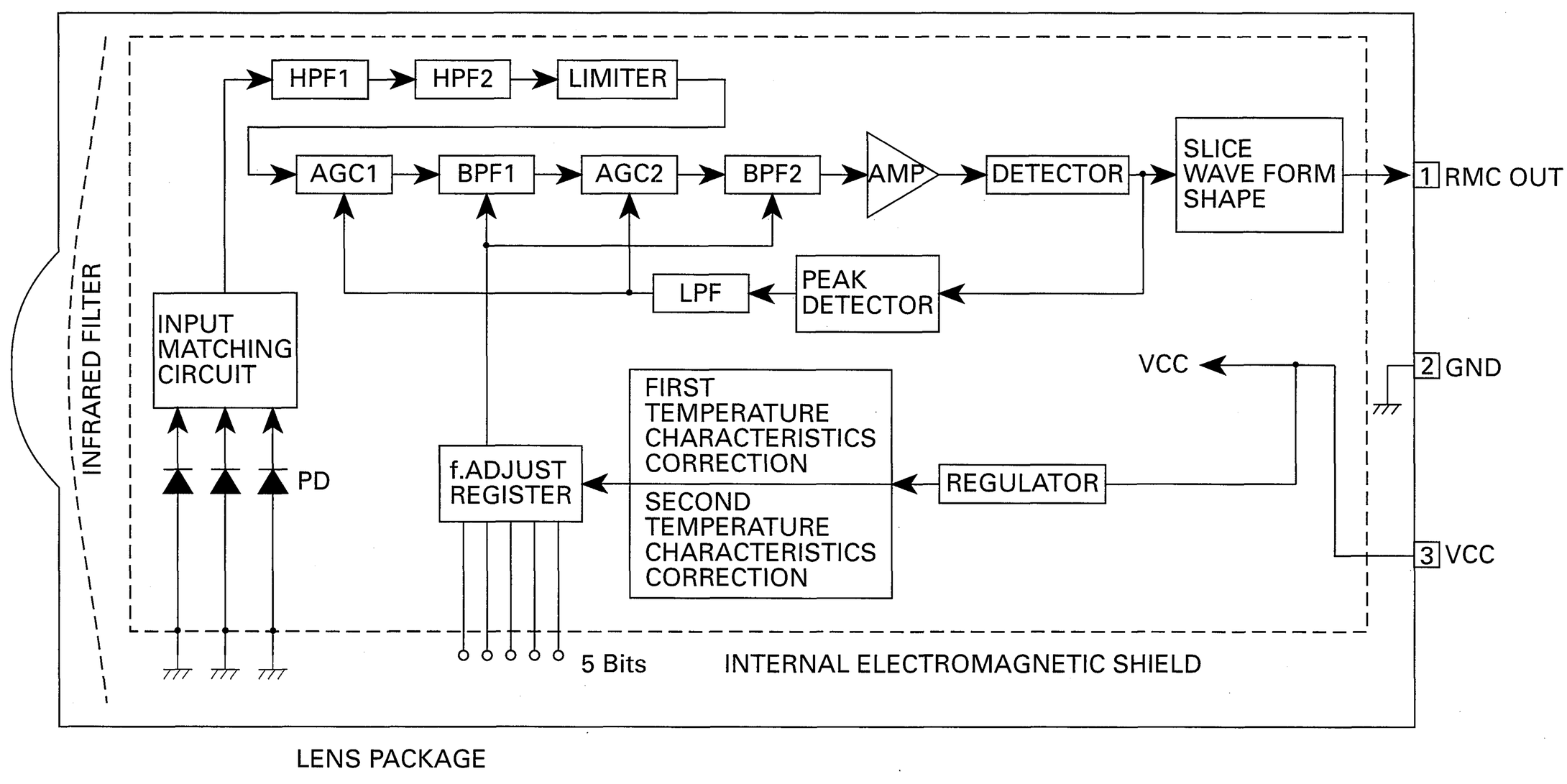
Pin No.	Pin Name	I/O	Format	Function and Operation
1–5	SEG4-0	O		LCD segment output
6–9	COM3-0	O		LCD Common driver output
10	LCDB			LCD bias power supply
11–14	KS4-1	O	N	Key strobe output
15,16	KD0-1	I		Key data input
17	REM	I		Remote control reception
18	DPDT	I		UART input
19	RST	I		System reset
20	SO	O	C	UART output
21	KYDT			(VSS)
22	X0			Crystal oscillator connection pin
23	X1			Crystal oscillator connection pin
24	VSS			GND
25,26	KD2-3	I		Key data input
27,28	KS5-4	O	N	Key strobe output
29–55	SEG39-13	O		LCD segment output
56	VDD			Power
57–64	SEG12-5	O		LCD segment output

*PD6195A



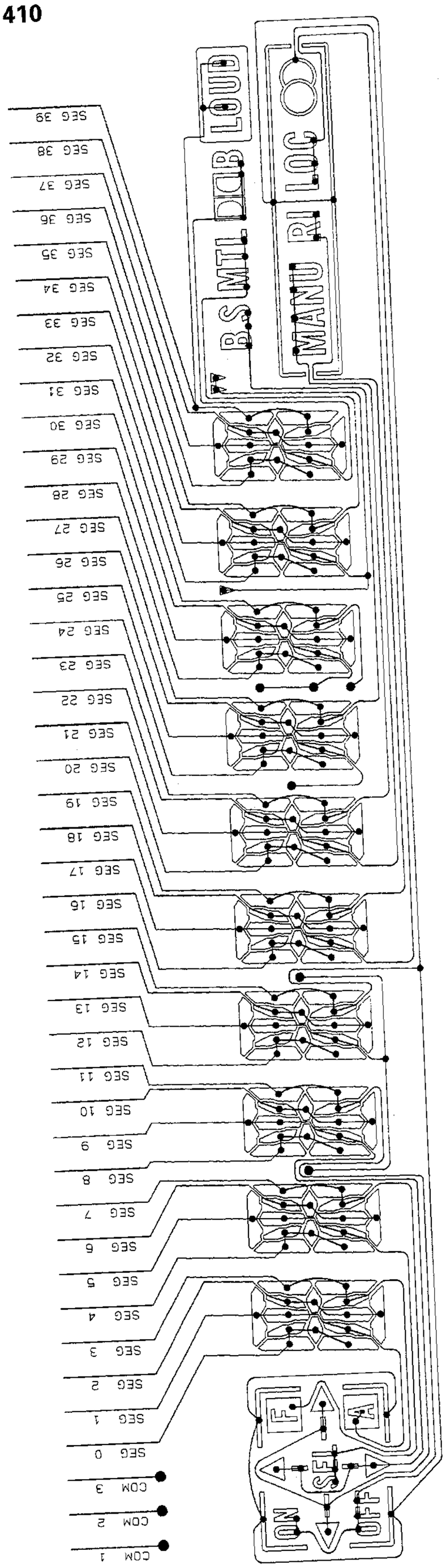
Format	Meaning
C	C MOS
N	N channel open drain

SBX8035-H



7.1.2 DISPLAY

● **CAW1410**



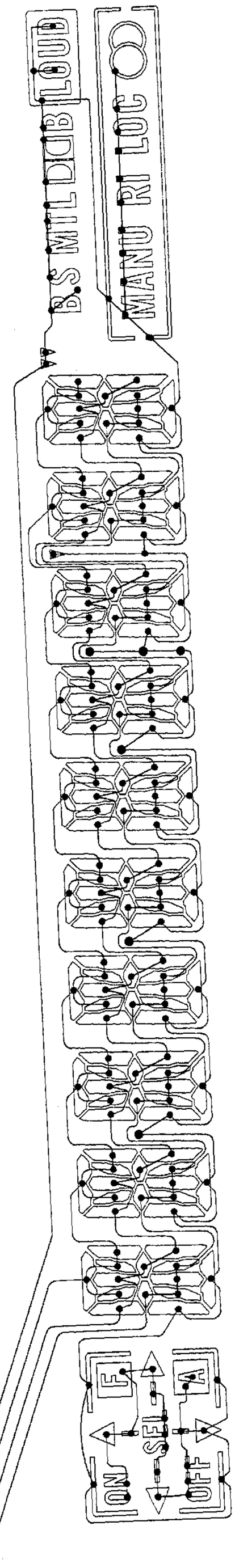


Fig. 22

7.2 DIAGNOSIS

7.2.1 DISASSEMBLY

1. Detach Grille Assy

1. A×3

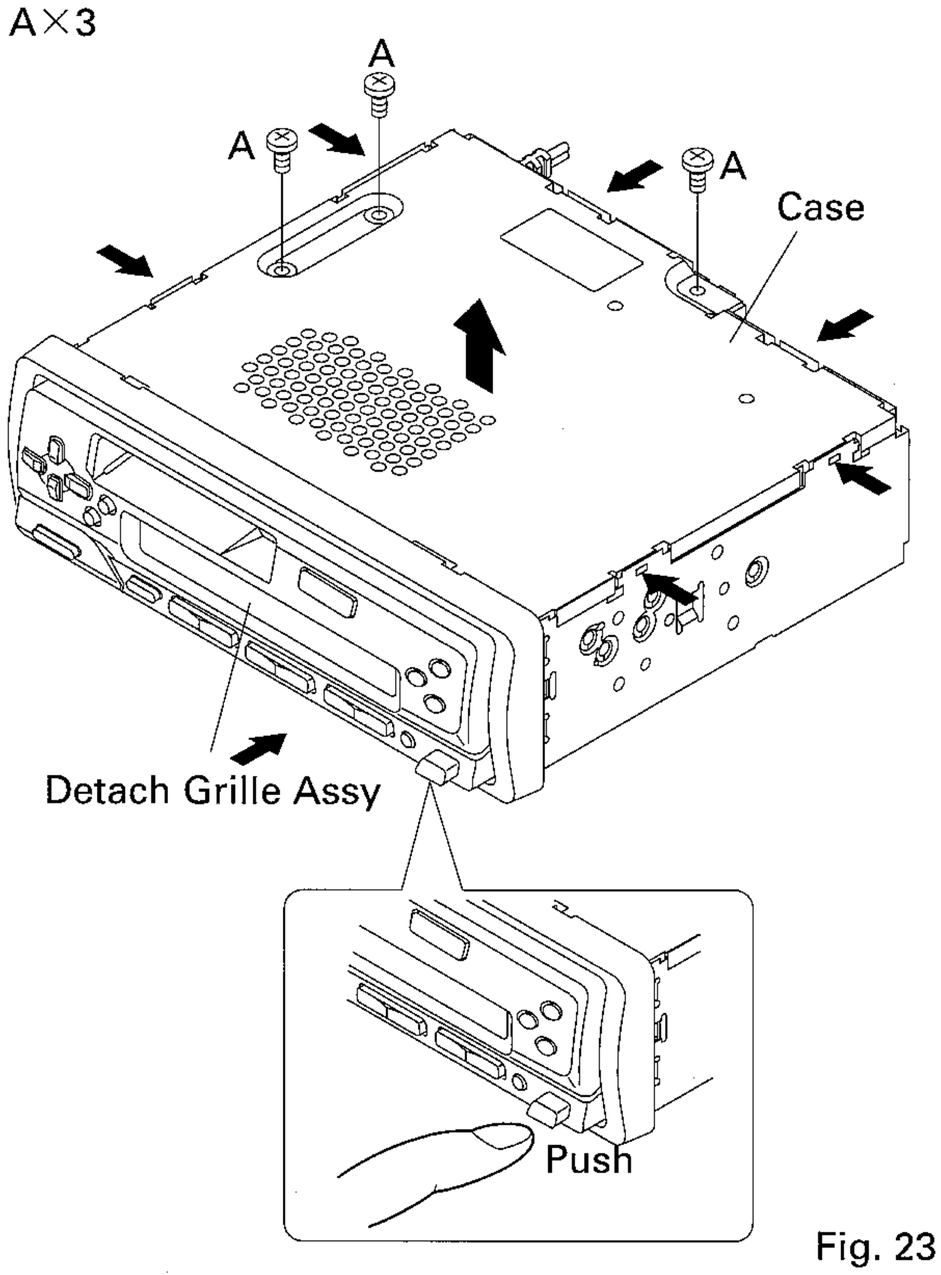


Fig. 23

2. Panel Unit

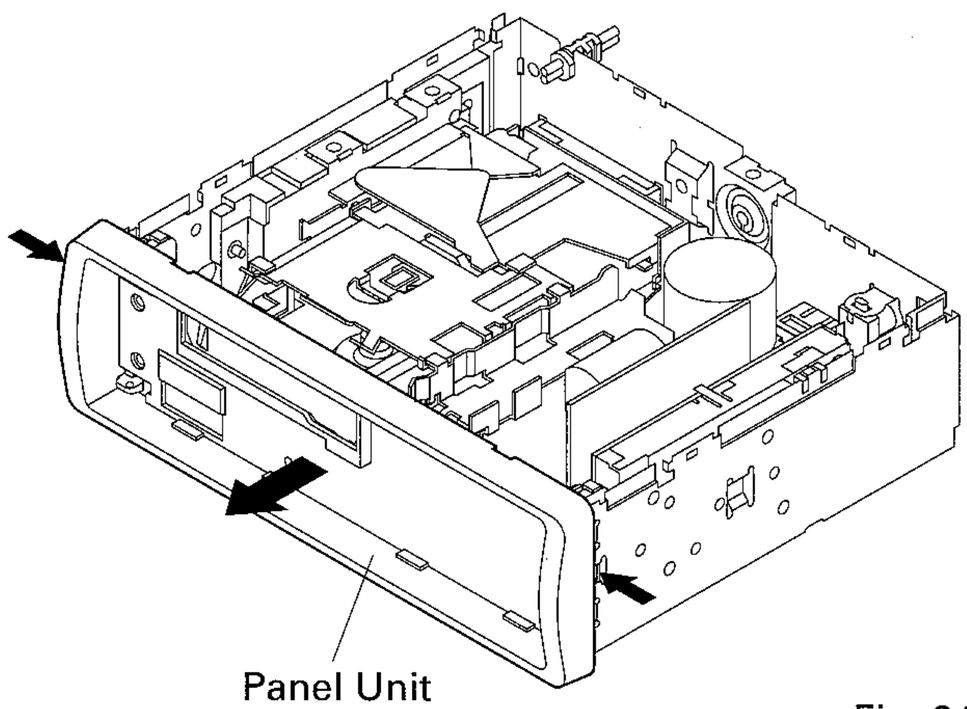


Fig. 24

3. Cassette Mechanism Module

1. A×4

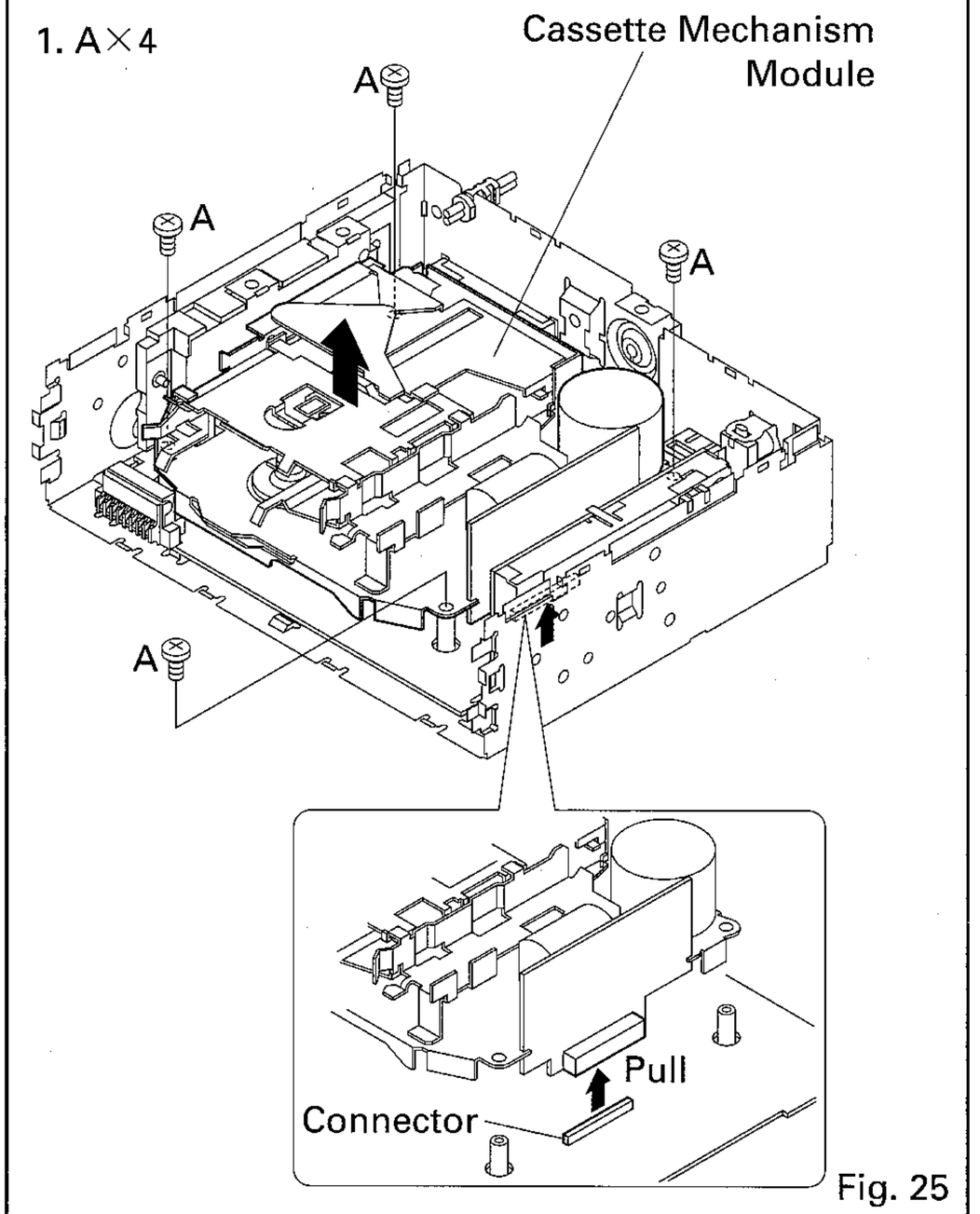


Fig. 25

4. Tuner Amp Unit

1. A×5
2. B×2

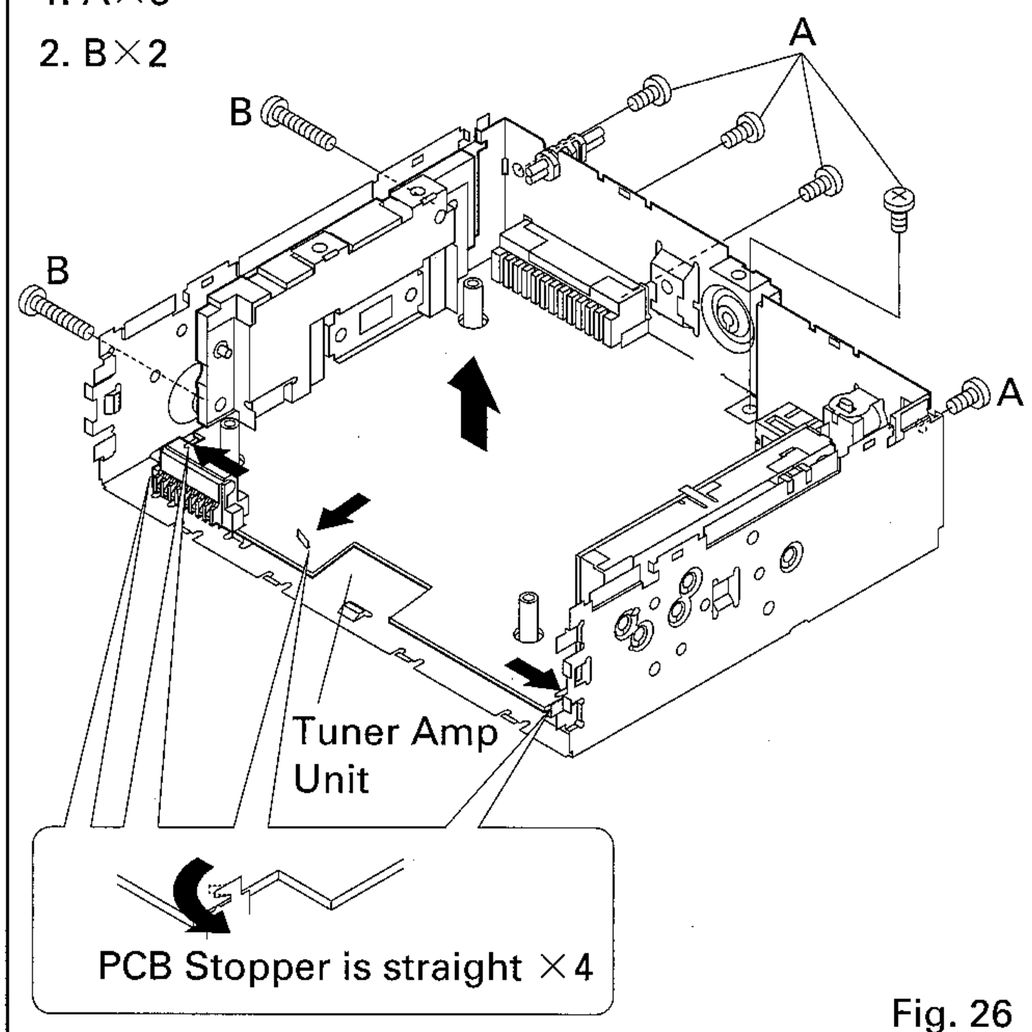


Fig. 26

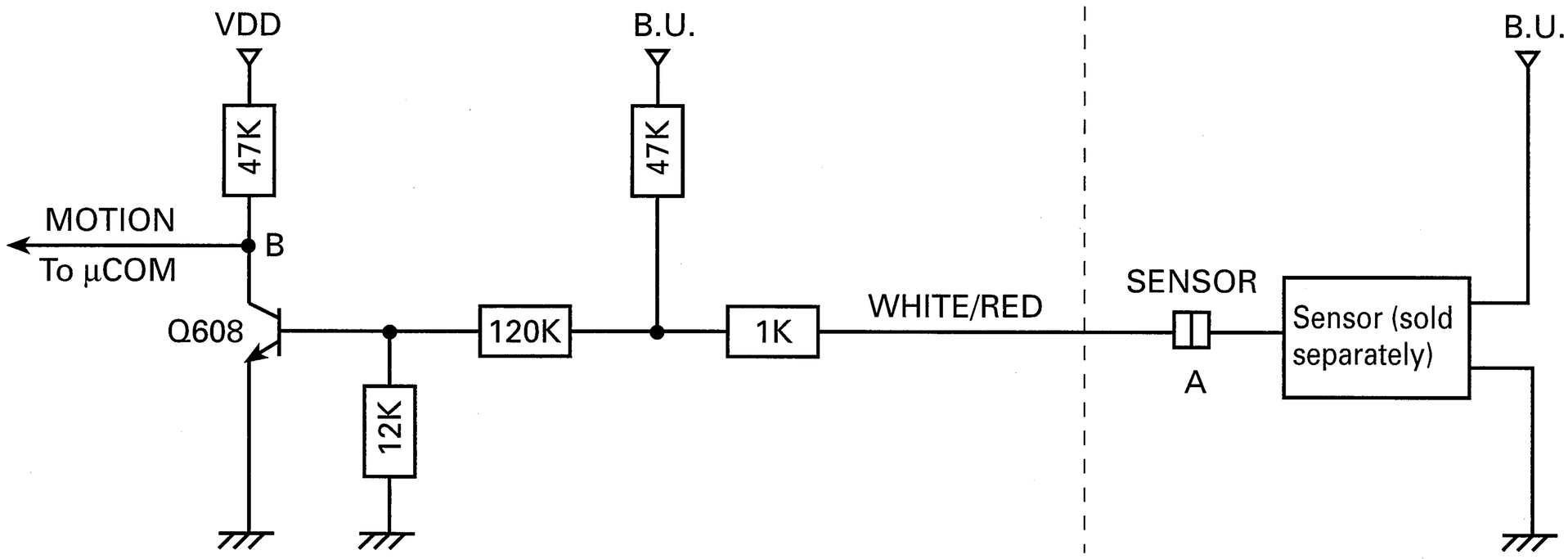
7.3 EXPLANATION

7.3.1 CIRCUIT DESCRIPTIONS

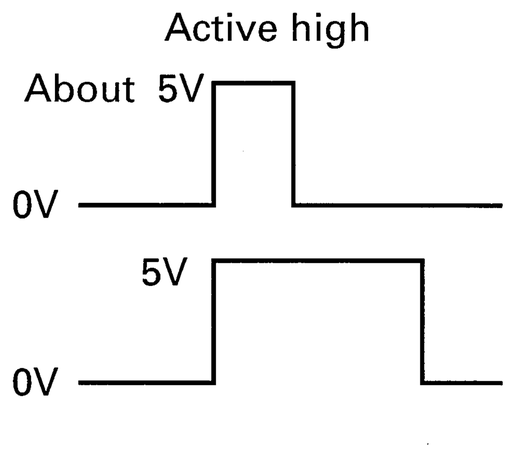
● KEH-P515/X1M/UC

1) SENSOR

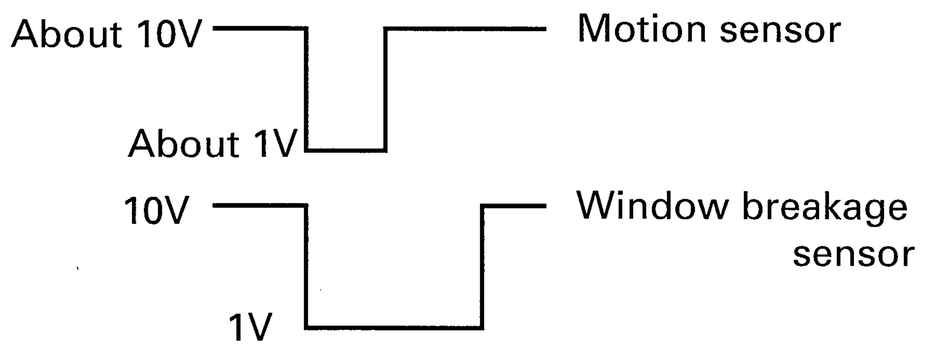
Install sensors sold separately, such as a motion sensor and window breakage sensor.



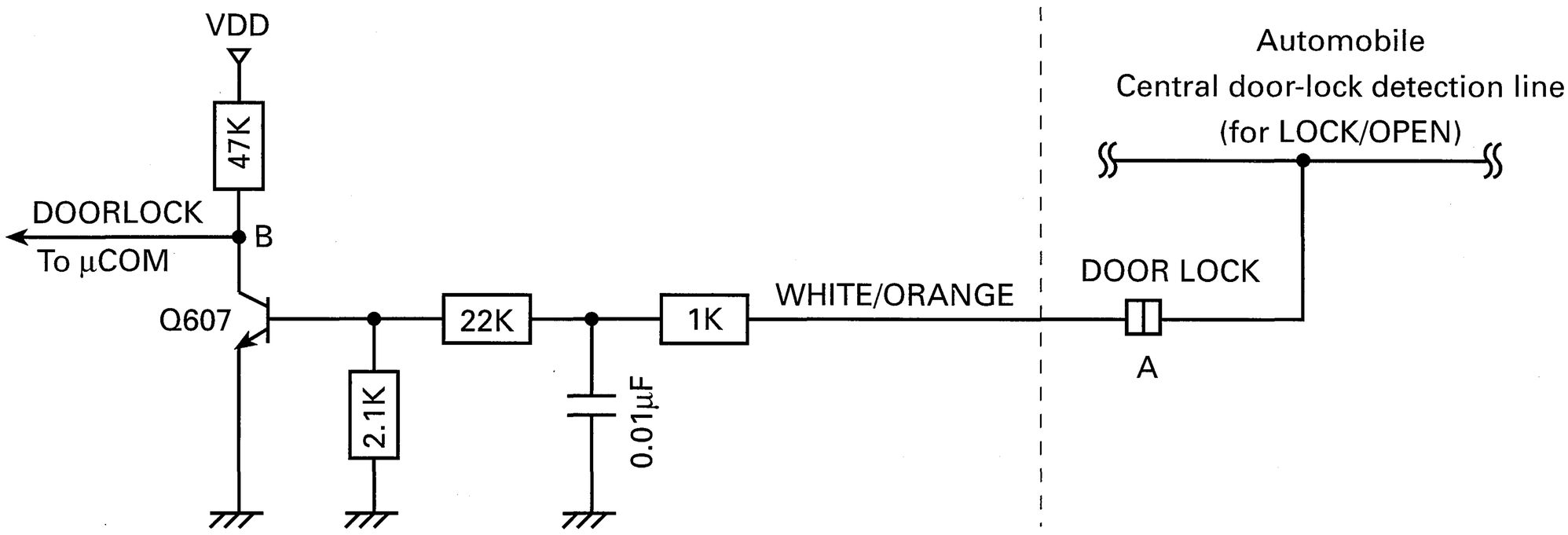
Point-B waveform (when a motion is sensed)

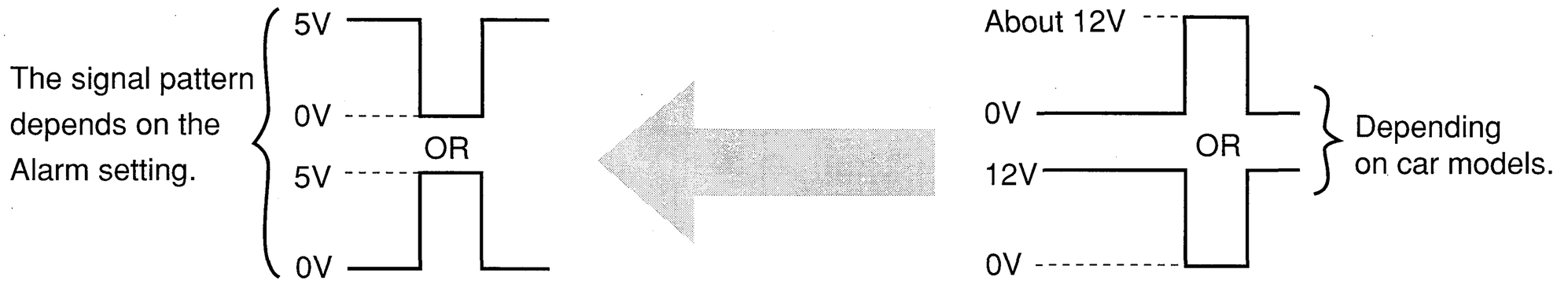


Point A waveform (when a motion is sensed)

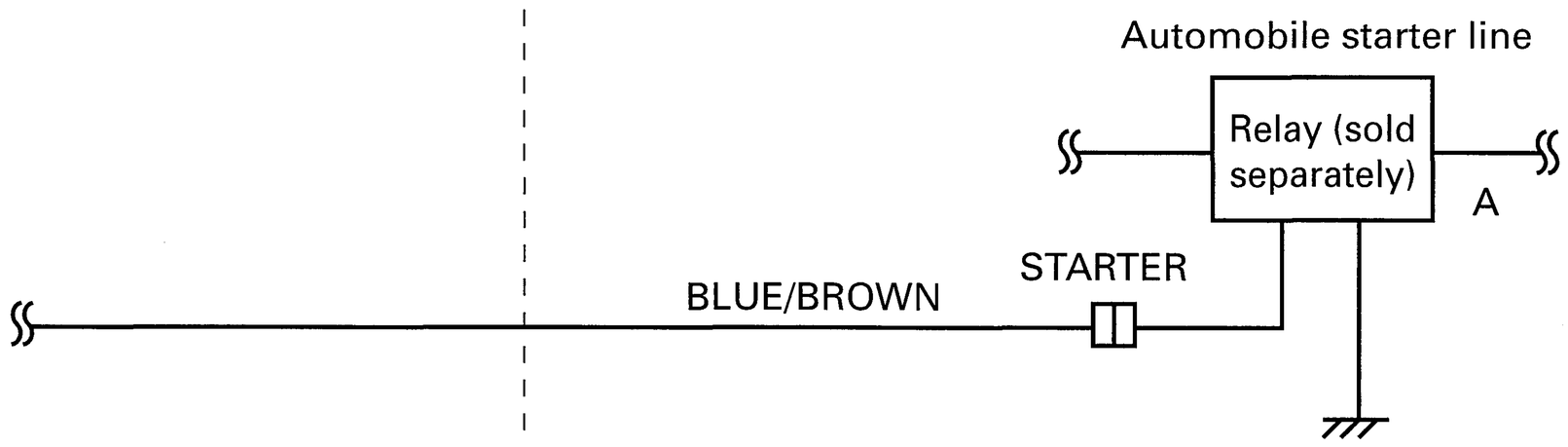


2) DOOR LOCK

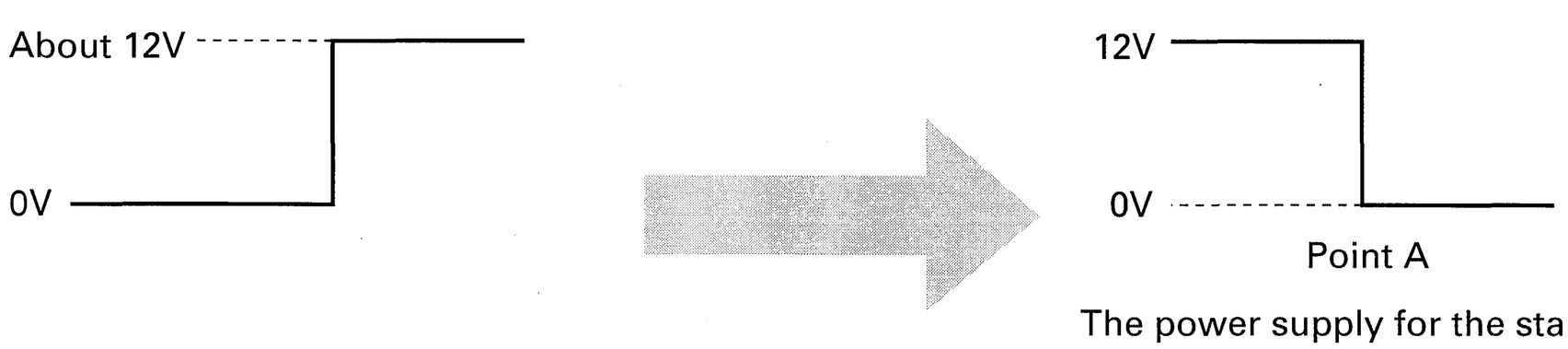




3) STARTER



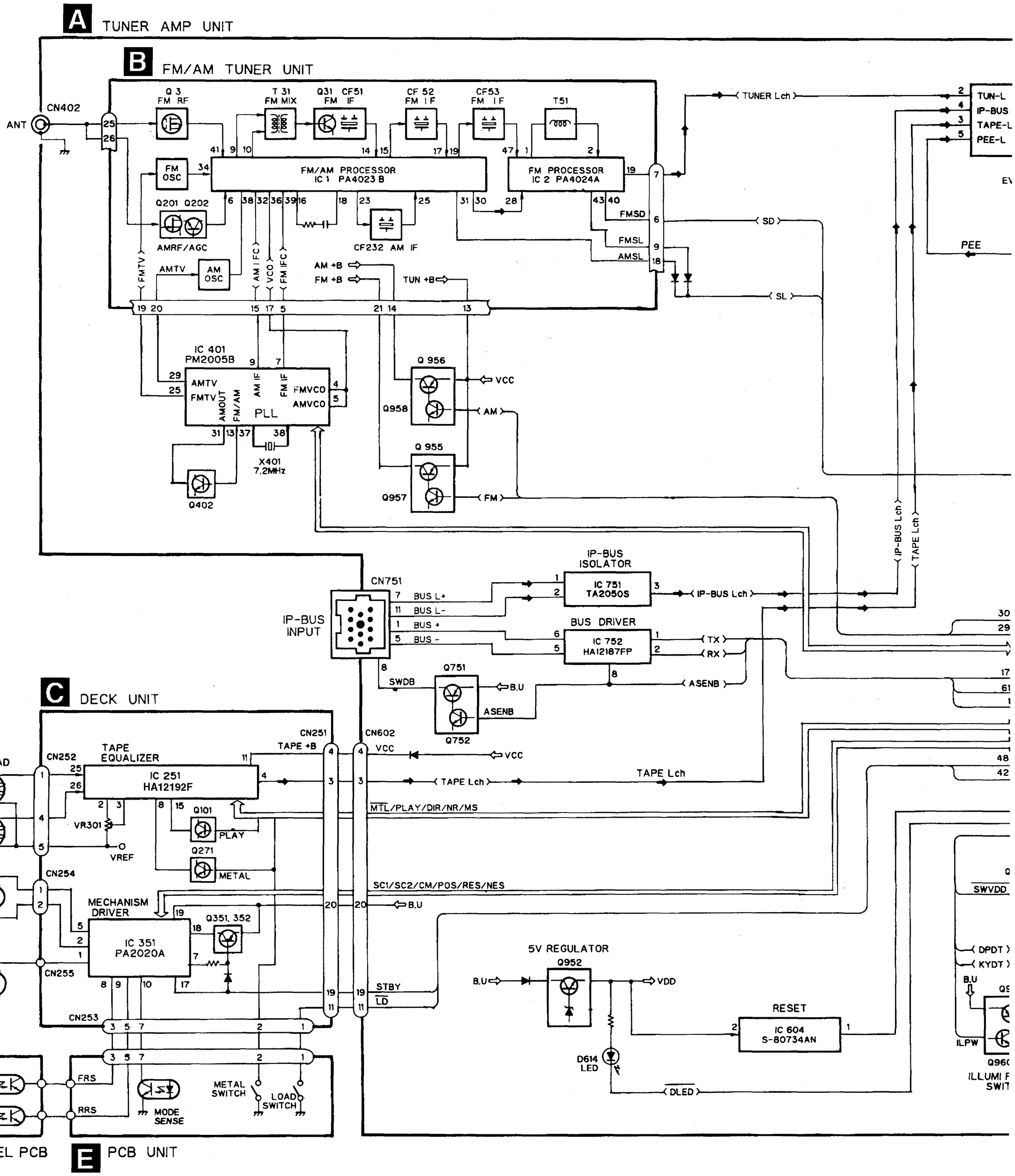
When the door is open forcibly or the window is broken.



The power supply for the starter is cut out.

7.3.2 BLOCK DIAGRAM

● KEH-P515/X1M/UC



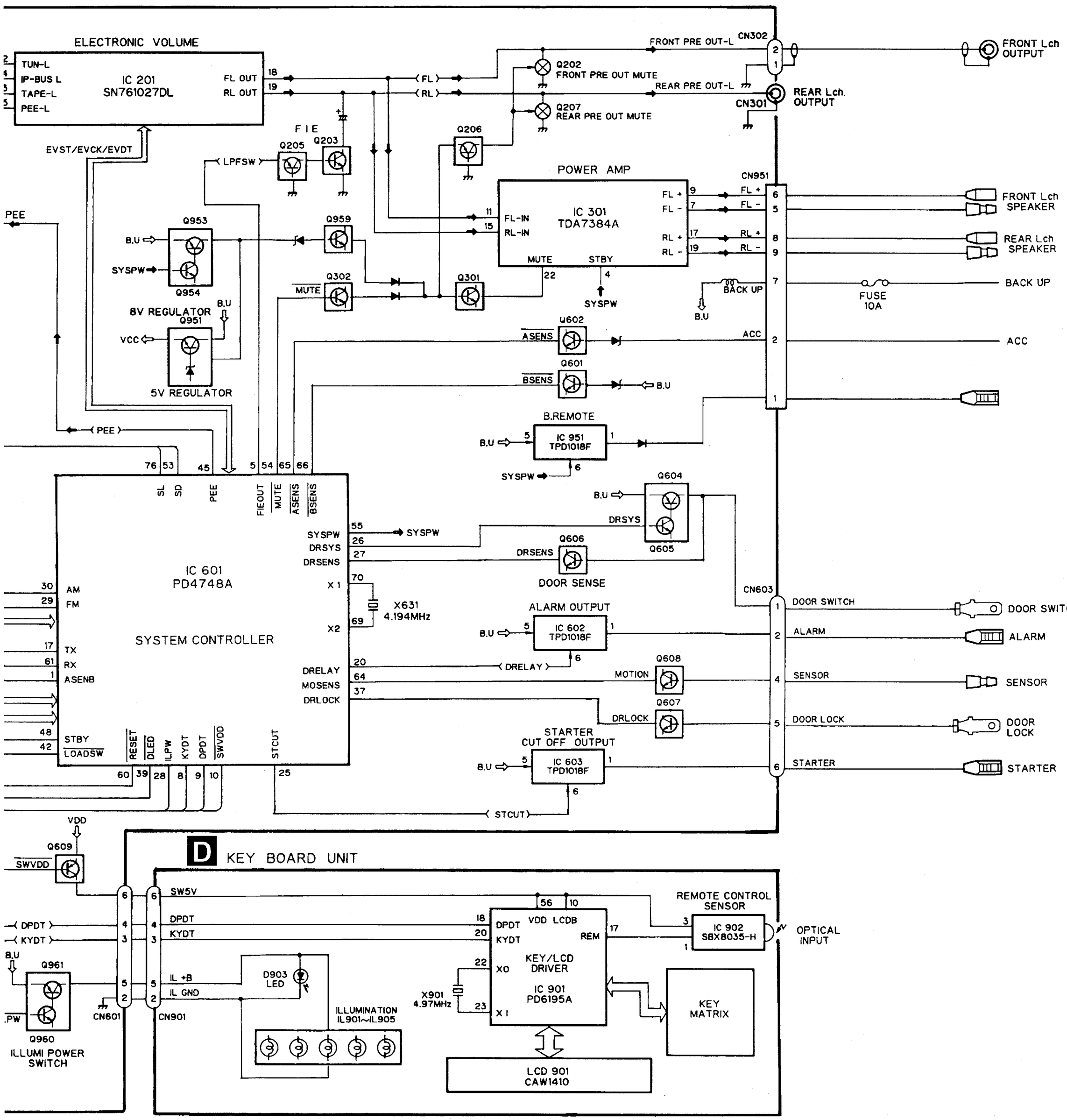

ELECTRONIC VOLUME
IC 201
SN761027DL
TUN-L
IP-BUS L
TAPE-L
PEE-L
FL OUT
RL OUT
EVST/EVCK/EVDT
FIE
Q205
Q203
LPFSW
Q206
Q202
FRONT PRE OUT MUTE
Q207
REAR PRE OUT MUTE
FRONT PRE OUT-L
REAR PRE OUT-L
CN302
CN301
FRONT Lch OUTPUT
REAR Lch. OUTPUT
POWER AMP
IC 301
TDA7384A
FL-IN
RL-IN
MUTE
STBY
FL +
FL -
RL +
RL -
CN951
FRONT Lch SPEAKER
REAR Lch SPEAKER
BACK UP
FUSE 10A
PEE
Q953
Q954
Q959
Q302
Q301
B.U
SYSPW
MUTE
8V REGULATOR
Q951
VCC
5V REGULATOR
Q602
ASENS
ACC
Q601
BSENS
B.REMOTE
IC 951
TPD1018F
IC 601
PD4748A
SYSTEM CONTROLLER
SL
SD
PEE
FIEOUT
MUTE
ASENS
BSENS
SYSPW
DRSYS
DRSENS
X1
X2
X631
4.194MHz
DRELAY
MOSENS
DRLOCK
AM
FM
TX
RX
ASENB
STBY
LOADSW
RESET
DLED
ILPW
KYDT
DPDT
SWVDD
STCUT
Q604
Q605
Q606
DOOR SENSE
ALARM OUTPUT
IC 602
TPD1018F
Q608
MOTION
Q607
STARTER CUT OFF OUTPUT
IC 603
TPD1018F
CN603
DOOR SWITCH
ALARM
SENSOR
DOOR LOCK
STARTER
VDD
Q609
SWVDD
D KEY BOARD UNIT
SW5V
DPDT
KYDT
IL +B
IL GND
Q961
Q960
ILLUMI POWER SWITCH
CN601
CN901
D903 LED
ILLUMINATION IL901~IL905
X901 4.97MHz
VDD LCDB
REM
KEY/LCD DRIVER
IC 901
PD6195A
LCD 901
CAW1410
KEY MATRIX
REMOTE CONTROL SENSOR
IC 902
SBX8035-H
OPTICAL INPUT

Fig. 27

8. OPERATIONS AND SPECIFICATIONS

Connection Diagram

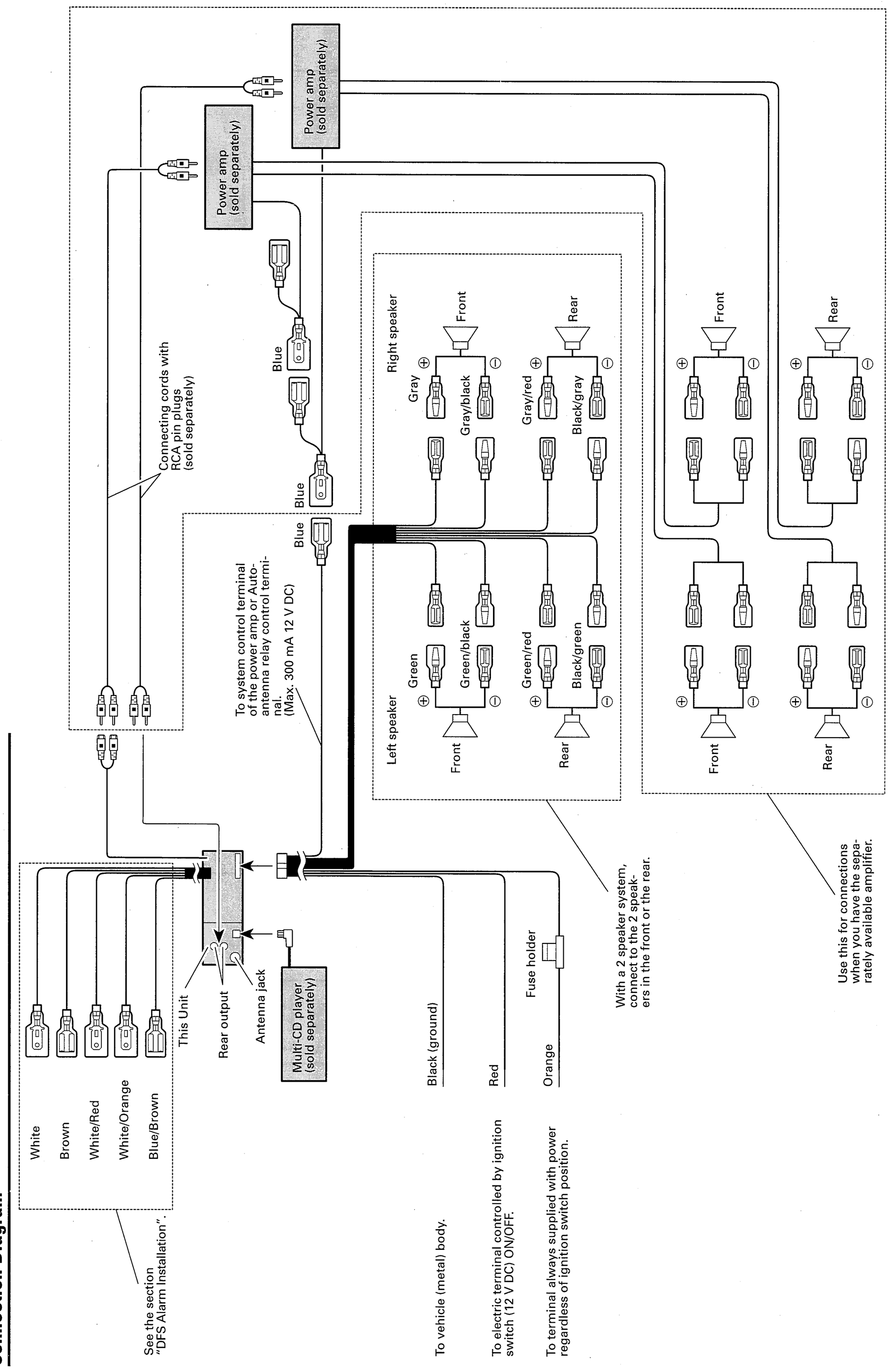
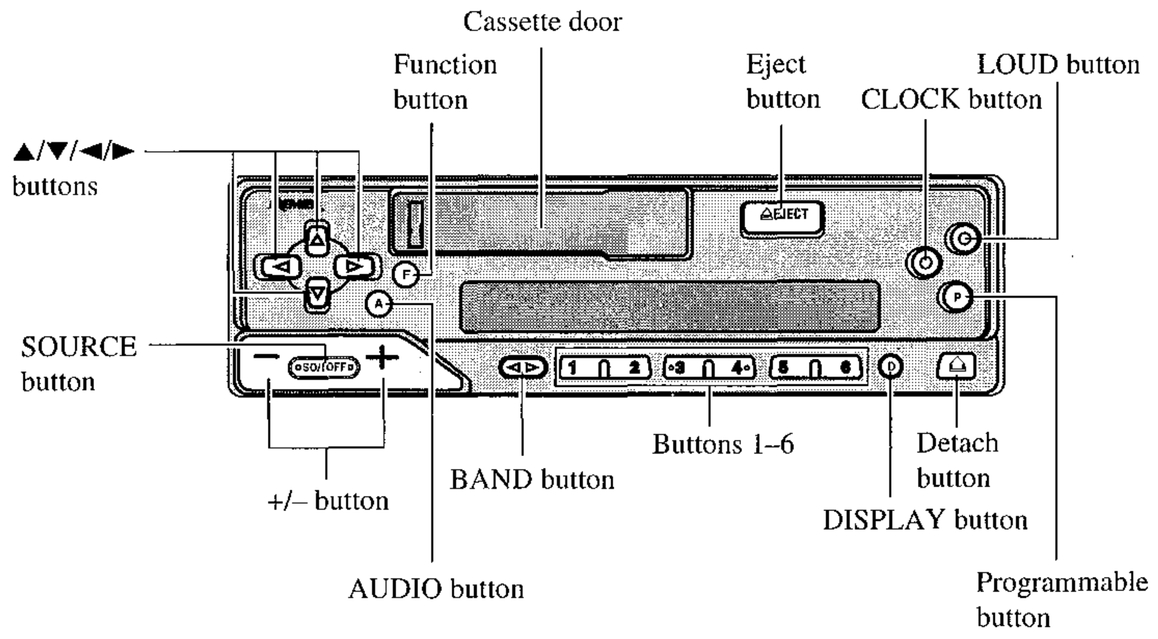


Fig. 28

Key Finder

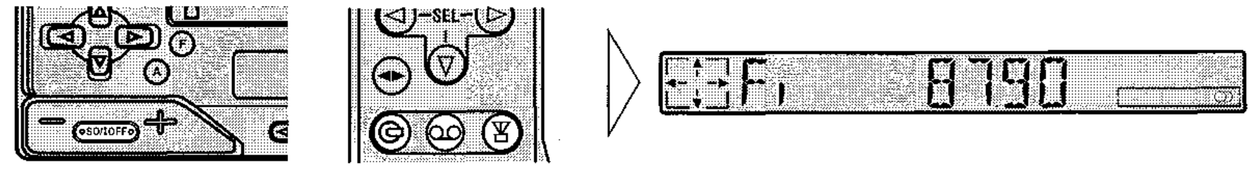
■ Head Unit



Basic Operation

Switching Power ON/OFF

- **Select the desired source (such as the tuner).**



■ Head Unit

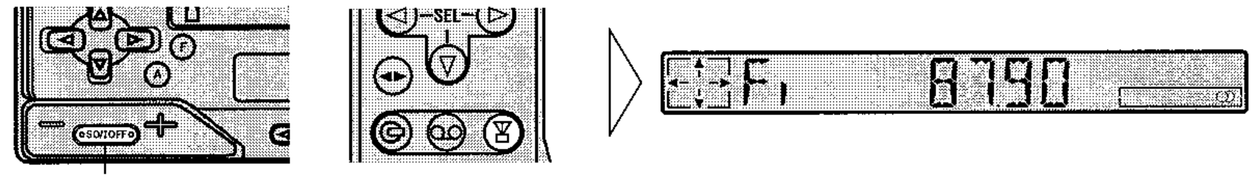
Each press of the SOURCE button selects the desired source in the following order:
CD player (one disc only) → Tuner → Tape → Multi-CD player → AUX

To switch the sources OFF, hold down the SOURCE button for 1 second or more.

Tuner Operation

Basic Operation of Tuner

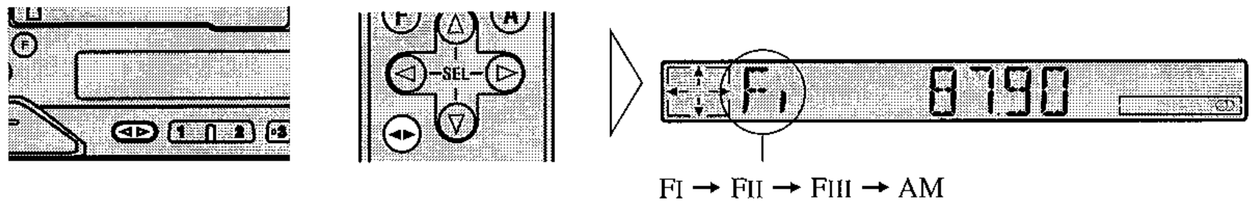
1. Select Tuner. (See page 51.)



Each press
changes the Source ...

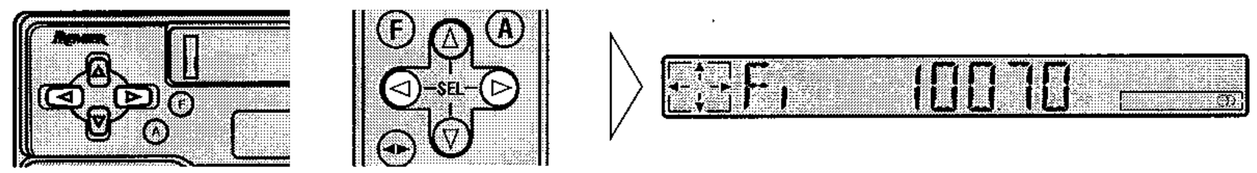
Frequency appears on the display.
("◯" indicator lights when a stereo station is selected.)

2. Select the desired band.



F1 → F2 → F3 → AM

3. Tune the receiver to a higher or lower frequency.

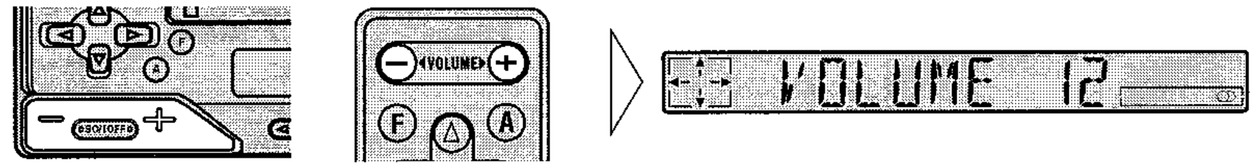


This product's tuner lets you select the tuning by changing the length of the time you press the button.

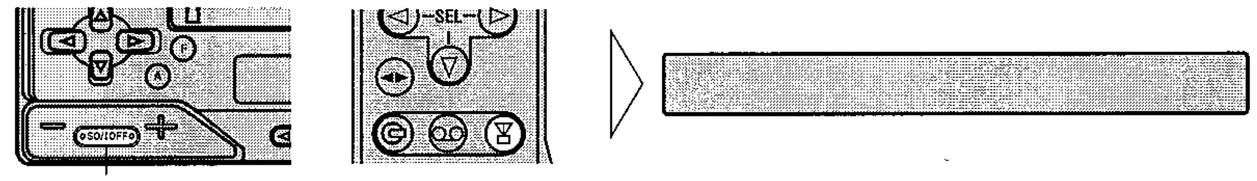
Manual Tuning (step by step)	0.3 seconds or less
Seek Tuning	0.3 – 2 seconds
Manual Tuning (continuously)	2 seconds or more

Note:
- To select a weak broadcasting station that cannot be tuned in with the Seek Tuning function, tune in with Manual Tuning.

4. Raise or lower the volume.



5. Turn the source OFF. (See page 51.)

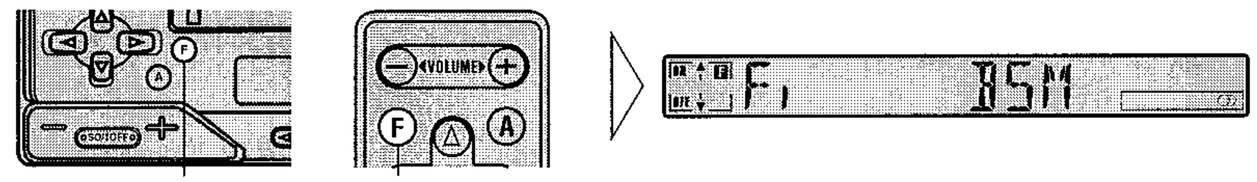


Hold for 1 second

Entering the Function Menu

In this menu you can select tuner functions.

- **Select the desired mode in Function Menu.**



Each press changes the Mode ...

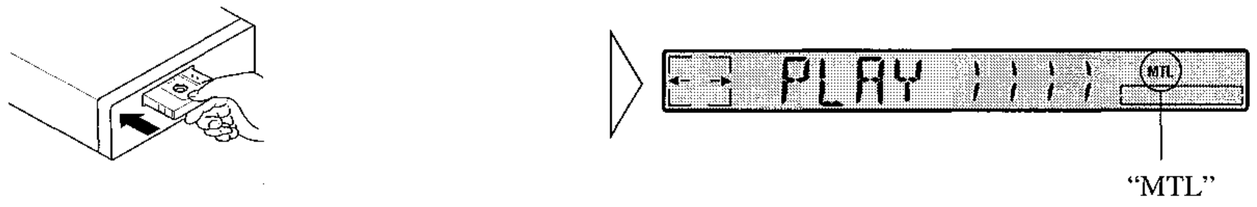
Each press changes the Mode ...

Each press of the Function button selects the mode in the following order:
BSM → LOCAL

Note:
- You can cancel the Function Menu by pressing the BAND button.
- After selecting the Function Menu, if you do not perform an operation within about 30 seconds, the Function Menu is automatically canceled.

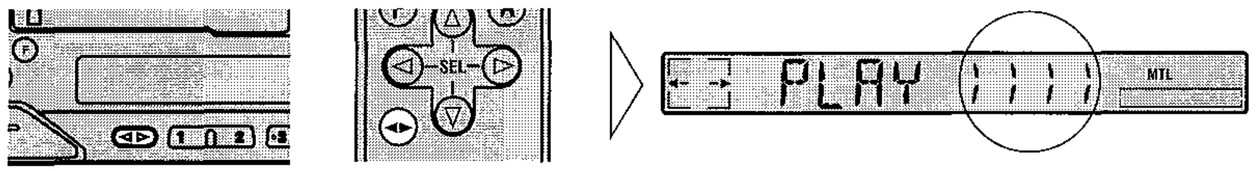
Basic Operation of Cassette Player

1. Insert the cassette tape.

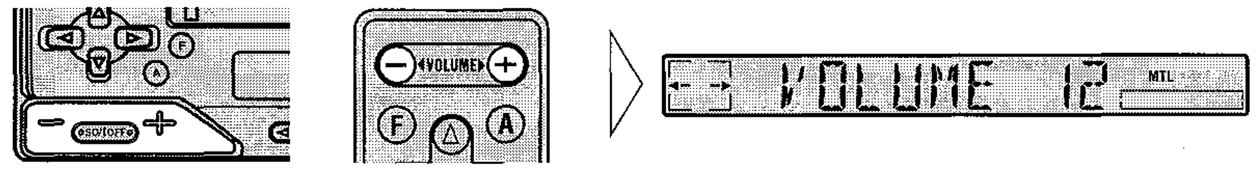


"MTL" appears on the display automatically when a metal or chrome tape is inserted. Nothing is displayed for a normal tape.

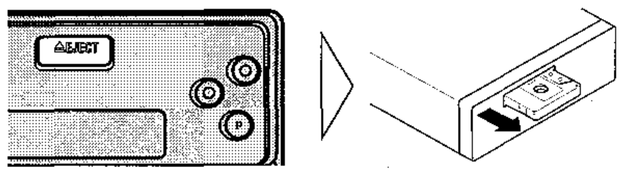
2. Switch tape playback from side A to side B, or vice versa.



3. Raise or lower the volume.



4. Remove the cassette tape.



Note:
- The Tape function can be turned ON/OFF with the cassette tape remaining in this product. (See page 51.)

Fast Forward/Rewind and Music Search

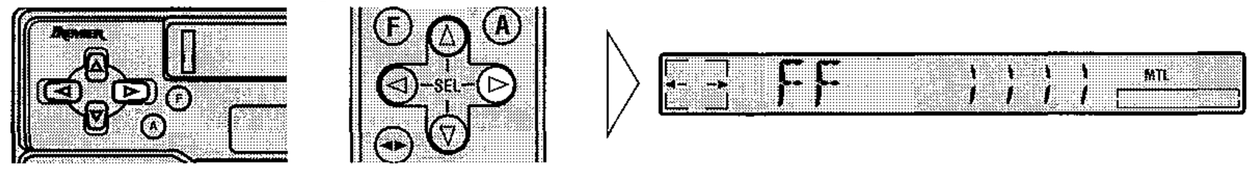
■ Fast Forward and Forward-Music Search

While "FF" is displayed, the system fast-forwards the cassette tape to the end of the current side.

While "F-MS" is displayed, the system winds the cassette tape forward to the beginning of the next song, then play begins from that point.

- **Select the desired mode in the following order:**

FF → F-MS → Normal playback



Note:
- Fast Forward (FF) and Forward-Music Search (F-MS) can be canceled by pressing the BAND button during FF or F-MS operation.

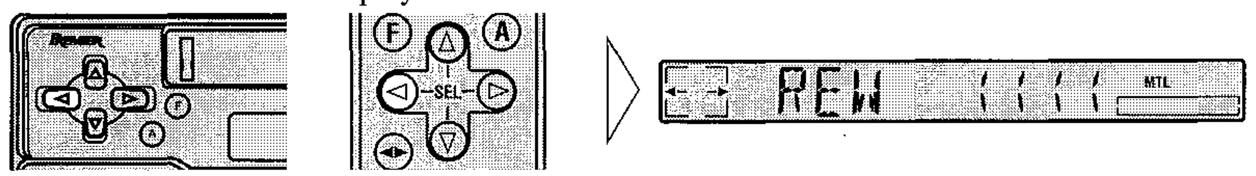
■ Rewind and Rewind-Music Search

While "REW" is displayed, the system rewinds the cassette tape to the beginning of the current side.

While "R-MS" is displayed, the system rewinds the cassette tape to the beginning of the current song, then play begins from that point.

- **Select the desired mode in the following order:**

REW → R-MS → Normal playback

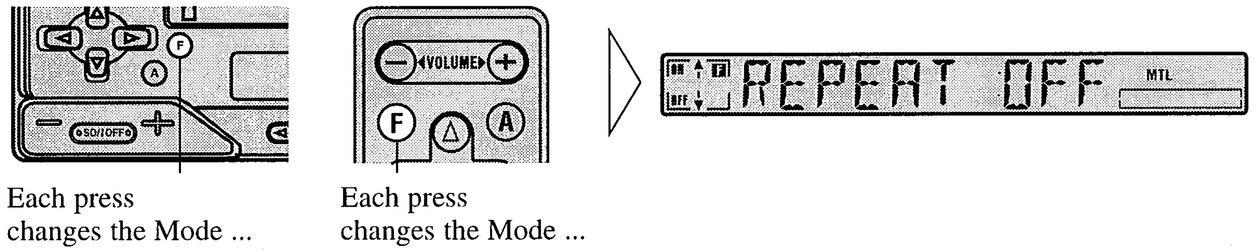


Note:
- Rewind (REW) and Rewind-Music Search (R-MS) can be canceled by pressing the BAND button during the REW or R-MS operation.

Entering the Function Menu

In this menu you can select Tape functions.

- **Select the desired mode in Function Menu.**



Each press changes the Mode ...

Each press changes the Mode ...

Each press of the Function button selects the mode in the following order:
REPEAT → B SKIP → RI → B NR

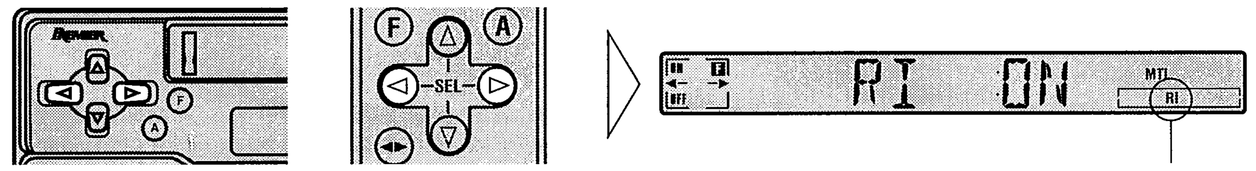
Note:
- You can cancel the Function Menu by pressing the BAND button.
- After selecting the Function Menu, if you do not perform an operation within about 30 seconds, the Function Menu is automatically canceled.

Radio Intercept

This function allows you to listen to the radio during tape fast-forwarding/rewinding.

Note:
- The radio intercept function does not work during a Music Search operation.

1. **Select the Radio Intercept mode in the Function Menu.**
2. **Switch the Radio Intercept mode ON or OFF.**



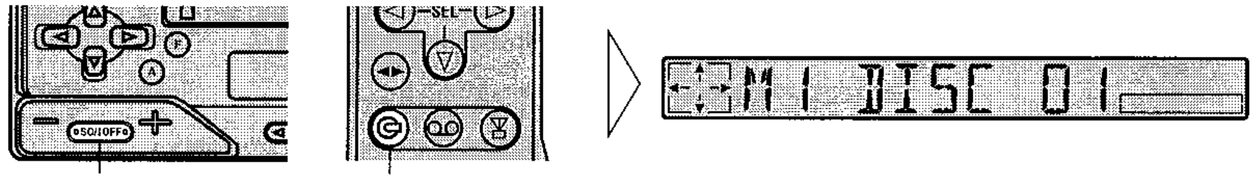
"RI"

Note:
- Pressing the BAND button cancels the Function Menu.

This product can control one or more multi-CD players.

Basic Operation of Multi-CD Players

1. Select the multi-CD player source. (See page 51.)

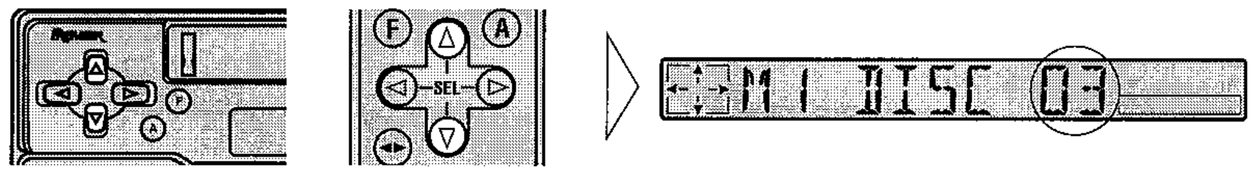


Each press changes the Source ...

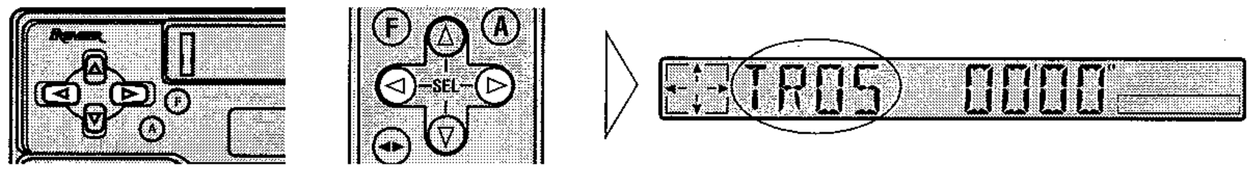
Each press changes the Source ...

Note:
- The multi-CD player may perform a preparatory operation, such as verifying the presence of a disc or reading disc information, when the power is turned ON or a new disc is selected for playback. "READY" is displayed.
- If the multi-CD player cannot operate properly, an error message such as "ERROR 14" is displayed. Refer to the multi-CD player owner's manual.

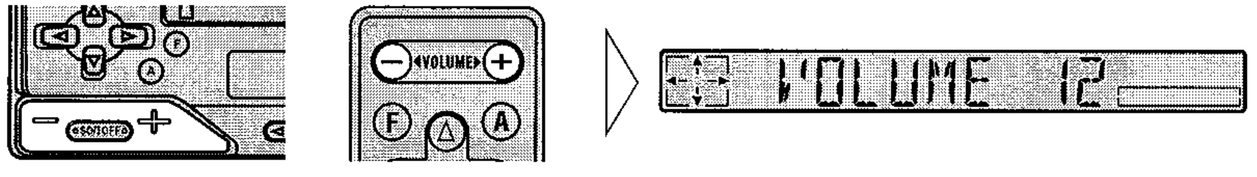
2. Select the desired disc.



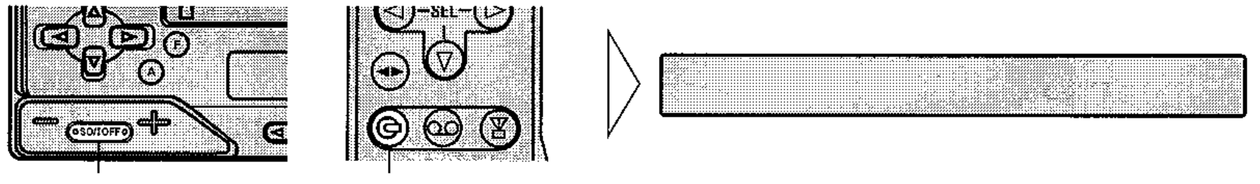
3. Reverse or advance track by track.



4. Raise or lower the volume.



5. Turn the source OFF. (See page 51.)



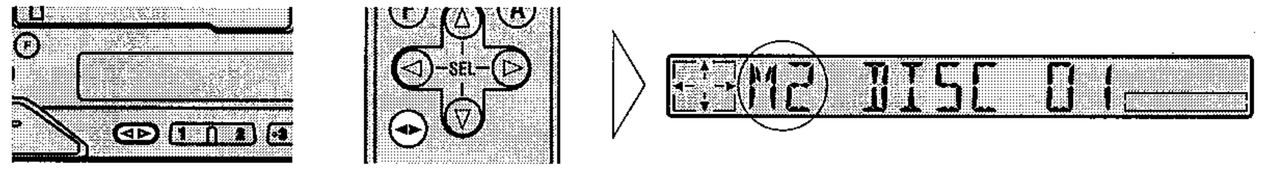
Hold for 1 second

Each press changes the Source ...

Switching the Multi-CD Player

It is possible to connect up to three multi-CD players by means of a multiple installation adapter. When two or more multi-CD players are installed, their priorities must be specified. Follow the multi-CD player instructions carefully, and set the address switches properly.

- **Select the multi-CD player you want to use.**



M1 → M2 → M3

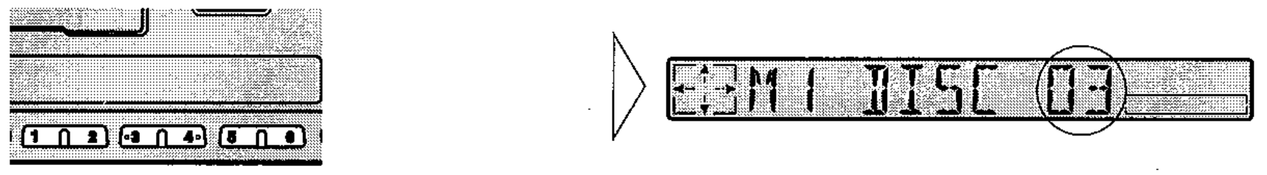
Disc Number Search

■ Disc Number Search (for 6-Disc, 12-Disc types)

You can select discs directly with the 1 to 6 buttons. Just press the number corresponding to the disc you want to listen to.

Note:
- When a 12-Disc Multi-CD Player is connected and you want to select disc 7 to 12, press the 1 to 6 buttons for 2 seconds or longer.

- **Select the desired disc. (eg. Press button 3.)**

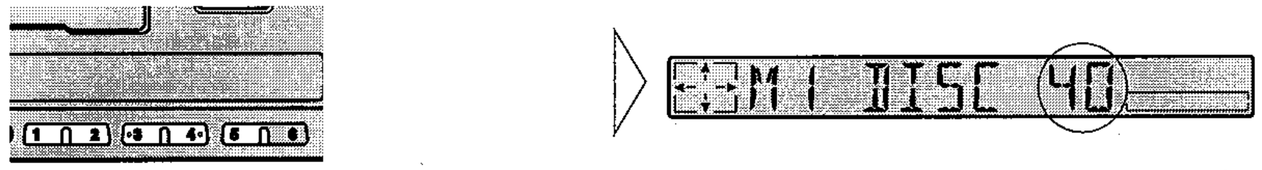


■ Disc Number Rough Search (for 50-Disc type only)

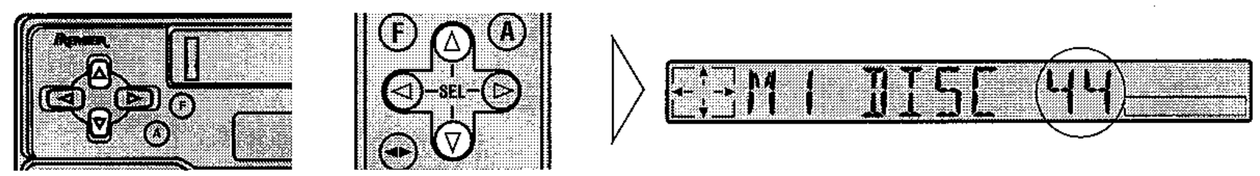
This handy function lets you select discs loaded in a 50-Disc Multi-CD Player using the 1 to 5 buttons. The 50 discs are divided into five blocks, with each of the 1 to 5 buttons assigned to a block.
For example, if you press button 1, discs 10 through 19 are searched in order, and then the disc with the lowest disc number is selected.

Note:
- Pressing button 5 lets you select the 50th disc only.
- Button 6 does not operate.
- Rough search of discs 1 to 9 is not possible. Use the ▲/▼ buttons to select a desired disc.

1. **Press the appropriate button from 1 to 5 to select the block containing the desired disc. (eg. Press button 4.)**



2. **Select the desired disc.**



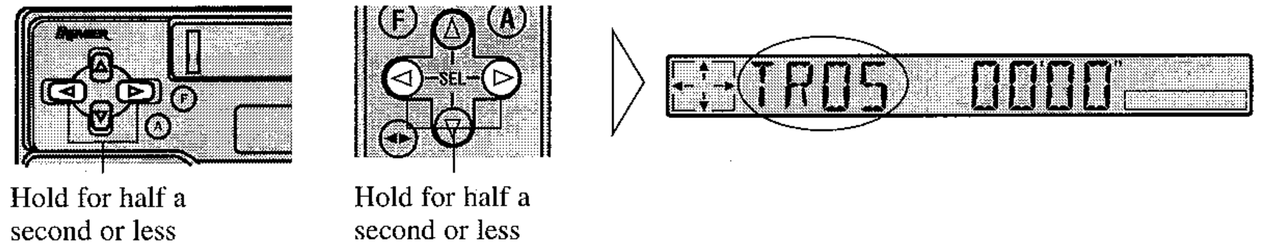
Track Search and Fast-forward/Reverse

Besides Track Search convenience when searching for a desired track, this unit also lets you fast-forward and reverse through tracks to find a desired phrase or section of music.

■ Track Search

This feature enables you to advance or reverse track by track.

- **Reverse or advance track by track.**



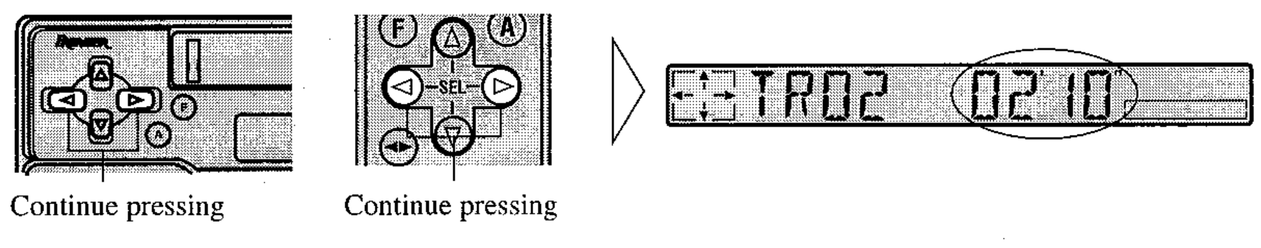
Hold for half a second or less

Hold for half a second or less

■ Fast-forward/Reverse

This feature enables you to advance or reverse at high speed between tracks.

- **Reverse or fast-forward through tracks.**



Continue pressing

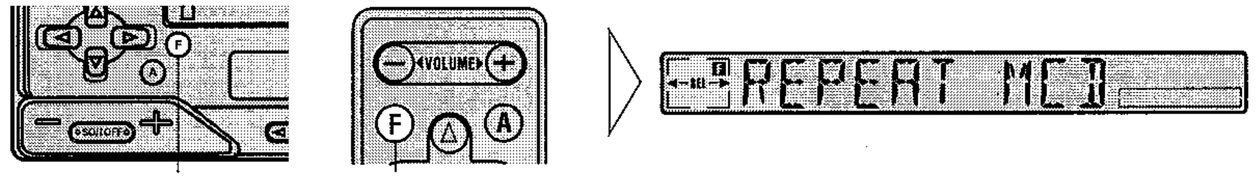
Continue pressing

Using Multi-CD Players

Entering the Function Menu

In this menu you can select Multi-CD Player functions.

- **Select the desired mode in Function Menu.**



Each press changes the Mode ...

Each press changes the Mode ...

Each press of the Function button selects the mode in the following order:
REPEAT → LIST → RANDOM → ITS P → PAUSE

Note:

- You can cancel the Function Menu by pressing the BAND button.
- After selecting the Function Menu, if you do not perform an operation within about 30 seconds, the Function Menu is automatically canceled.

Specifications

General

Power source ..... 14.4 V DC (10.8 – 15.1 V allowable)
Grounding system ..... Negative type
Max. current consumption ..... 8.5 A
Dimensions
(DIN) (chassis) .... 178 (W) × 50 (H) × 150 (D) mm
[7 (W) × 2 (H) × 5-7/8 (D) in.]
(nose) ..... 188 (W) × 58 (H) × 19 (D) mm
[7-3/8 (W) × 2-1/4 (H) × 3/4 (D) in.]
(D) (chassis) .... 178 (W) × 50 (H) × 155 (D) mm
[7 (W) × 2 (H) × 6-1/8 (D) in.]
(nose) ..... 170 (W) × 48 (H) × 14 (D) mm
[6-3/4 (W) × 1-7/8 (H) × 1/2 (D) in.]
Weight ..... 1.2 kg (2.6 lbs)

Amplifier

Continnous power output is 17 W per channel min. into 4 ohms. both channels driven 50 to 15,000 Hz with no more than 5% THD.
Maximum power output ..... 35 W × 4
Load impedance ..... 4 Ω (4 – 8 Ω allowable)
Preout output level/output impedance ..... 500 mV/1 kΩ
Tone controls
(Bass) (UC Model)..... ±12 dB (100 Hz)
(ES Model) .....+8 – -16 dB (100 Hz)
(Treble) ..... ±12 dB (10 kHz)
Loudness contour ..... +10 dB (100 Hz), +7 dB (10 kHz)
(volume: –30 dB)

Cassette player

Tape ..... Compact cassette tape (C-30 – C-90)
Tape speed .... 4.76 cm/sec. (+0.14 cm/sec. -0.05 cm/sec.)
Fast forward/rewinding time .. Approx. 100 sec. for C-60
Wow & flutter ..... 0.09% (WRMS)
Frequency response ..... Metal: 30 – 19,000 Hz (±3 dB)
Stereo separation ..... 45 dB
Signal-to-noise ratio
..... Metal: Dolby B NR IN: 67 dB (IHF-A network)
Dolby NR OUT: 61 dB (IHF-A network)

FM tuner

Frequency range (UC Model) ..... 87.9 – 107.9 MHz
(ES Model) ..... 87.5 – 108 MHz
Usable sensitivity
..... 11 dBf (1.0 µV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity .... 16 dBf (1.7 µV/75 Ω, mono)
Signal-to-noise ratio ..... 70 dB (IHF-A network)
Distortion ..... 0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response ..... 30 – 15,000 Hz (±3 dB)
Stereo separation ..... 40 dB (at 65 dBf, 1 kHz)
Selectivity (UC Model) ..... 70 dB (2ACA)
Three-signal intermodulation
(desire signal level) (UC Model)
.....50 dBf (two undesire signal level: 110 dBf)

AM tuner

Frequency range ..... 530 – 1,710 kHz
(ES Model) ..... 531 – 1.602 kHz(9kHz)
530 – 1.710 kHz(10kHz)
Usable sensitivity ..... 18 µV (25 dB) (S/N: 20 dB)
Selectivity ..... 50 dB